ORDER NO. MD0704056CE

Service Manual

CD Stereo System

SA-AK250GCP

Colour

(S)... Silver Type



Remote Control SB-AK250 SA-AK250 SB-AK250

Notes: This model's CD mechanism changer unit is CRS1. Please refer to the original Service Manual (Order No. MD0509368C0) for this mechanism.

Specifications

■ AMPLIFIER SECTION

RMS output power	
THD 10%, both channels driven	
1 kHz	115 W per channel (3 Ω)
Total output power	230 W

■ FM/AM TUNER, TERMINALS SECTION

Preset station	FM 20 stations
	AM 15 stations
Frequency Modulation (FM)	
Frequency range	
	87.50 to 108.00 MHz (50 kHz steps)
Sensitivity	4.0 μV (IHF)
S/N 26 dB	2.2 μV
Antenna terminal(s)	75 Ω (unbalanced)
Amplitude Modulation (AM)	
Frequency range	522 to 1629 kHz (9 kHz step)
	520 to 1630 kHz (10 kHz step)
Sensitivity	
S/N 20 dB (at 999 kHz)	560 μV/m
Audio performance (Amplifier)	
Input Sensitivity/ Input Impedance	
Aux	250 mV, 14.7 kΩ
Music Port input jack	
Terminal	Stereo, 3.5 mm jack
Sensitivity	100 mV, 4.7 kΩ
Phone jack	
Terminal	Stereo, 3.5 mm jack
Mic jack	
Terminal	Mono, 3.5 mm jack
Sensitivity	0.7 mV, 680 Ω

■ CASSETTE DECK SECTION

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase 100 kHz
Tape speed	4.8 cm/s
Overall frequency response (+3, -6 dB) at DECK OUT	
NORMAL	35 Hz to 14 kHz
S/N ratio	50 dB (A weighted)
Wow and flutter	0.18 % (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

■ DISC SECTION

Disc played [8 cm or 12 cm]

Panasonic®

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(1) CD-Audio (CD-DA)

(2) CD-R/RW (CD-DA, MP3* formatted disc)

(3) MP3*

*MPEG-1 Layer 3, MPEG-2 Layer 3

Bit rate

MP3	32 kbps to 320 kbps

Sampling frequency

MP3	32 kHz, 44.1 kHz, 48 kHz
CD-DA	44.1 kHz
Decoding	16 bit linear
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

Pick up

Wavelength	780 nm
Beam Source	Semiconductor laser

Audio output (Disc)

Number of channels	2 (Stereo) (FL, FR)

n GENERAL

Power supply

AC 110 to 127/220 to 240 V, 50/60Hz

Power consumption	95 W
Power consumption in standby mode	0.7 W (Approx.)
Dimensions (W x H x D)	250 x 330 x 323 mm
Mass	7.1 kg
Operating temperature range	+5 to +35°C
Operating humidity range	5 to 90% RH (no condensation)

n SYSTEM

SC-AK250 (GCP)	Music center: SA-AK250 (GCP)
	Speakers: SB-AK250 (PL)

For Information on speaker system, plesae refer to the original Service Manual (Order No. MD0704055CE) for SB-AK250PL-S.

Notes:

1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

CONTENTS

1 Safety Precautions

1.1. General Guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, ensure that all the protective devices such as insulation barriers and insulation papers shields are properly installed.
3. After servicing, check for leakage current checks to prevent from being exposed to shock hazards.

1.1.1. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Using an ohmmeter measure the resistance value, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1MΩ and 5.2MΩ.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

1.1.2. Leakage Current Hot Check (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kΩ, 10 watts resistor, in parallel with a 0.15μF capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. Should the measurement is out of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

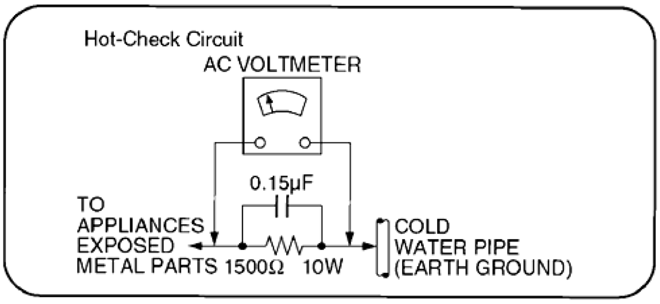


Fig. 1

1.2. Before Use

Be sure to disconnect the mains cord before adjusting the voltage selector.

Use a minus(-) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used. (If the power supply in your area is 110V or 127V, set to the "127V" position.)

Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries, the correct voltage is already set.)

1.3. Before repair and adjustment

Disconnect AC power, discharge power capacitors C5101, C5104, C5171, C5172, C5920, C5940 and C5950 through a 10Ω, 5W resistor to ground.

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

Current consumption at AC 110 ~ 127V, 50 Hz in NO SIGNAL mode (at volume min at CD mode) should be ~ 500mA.

Current consumption at AC 220 ~240V, 60 Hz in NO SIGNAL mode (at volume min at CD mode) should be ~ 350mA.

1.4. Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are “shorted”, or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note :

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

1.5. Safety Part Information

Safety Parts List:

There are special components used in this equipment which are important for safety.

These parts are marked by ⚠ in the Schematic Diagrams & Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer’s specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

Table 1

Reference No.	Part No.	Part name & Description	Remarks
360	RAE0165A-V	TRAVERSE UNIT	⚠
L5601	G0B9R5K00001	CHOKE COIL	⚠
L5602	G0B9R5K00001	CHOKE COIL	⚠
S5950	K0ABLB000003	SW VOLTAGE SELECTOR	⚠
T5950	G4CYAYY00135	MAIN TRANSFORMER	⚠
T5951	G4C2AAJ00005	SUB TRANSFORMER	⚠
Z5950	ERZV10V511CS	ZENER	⚠
RL5950	K6B1AEA00015	POWER RELAY	⚠
F1	K5D312BLA015	FUSE	⚠
F2	K5D162BLA013	FUSE	⚠
FP5920	K5G702A00009	FUSE PROTECTOR	⚠
FP5940	K5G702Z00004	FUSE PROTECTOR	⚠
FP5950	K5G402A00025	FUSE PROTECTOR	⚠
JK5950	K2AA2B000011	JK AC INLET	⚠
A2	K2CQ2CA00006	AC CORD	⚠

2 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equiped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equiped with ES devices, place the assembly on a conductive surface such as aluminium foil, to prevent electrostatic charge build up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder remover device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

Caution

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize body motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

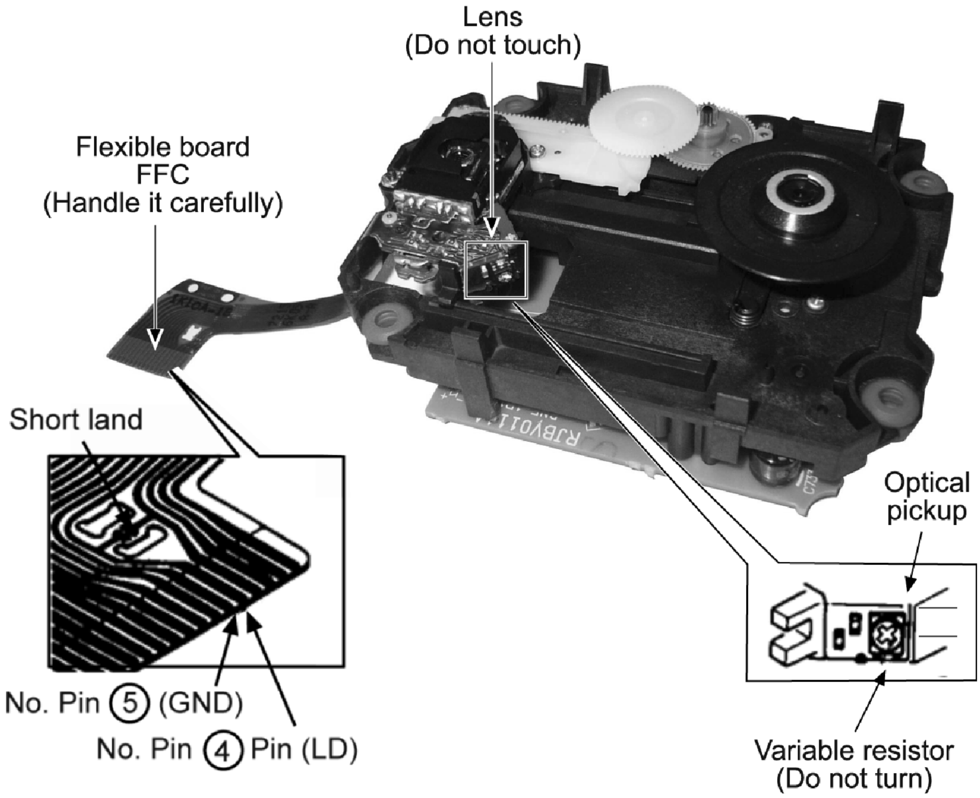
3 Handling Precautions For Traverse Unit

The laser diode in the traverse unit (with optical pickup) may break down due to potential difference caused by the static electricity of clothes or our human body.

So, be careful of electrostatic breakdown during repair of the traverse unit (with optical pickup).

· **Way of handling the traverse unit (with optical pickup)**

1. Do not subject the traverse unit (with optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FFC board).
3. Do not to apply excessive stress to the flexible board (FFC board). When removing or connecting the short pin, finish the job in as short time as possible.
4. Do not turn the variable resistor for laser power adjustment. (It is pre-adjusted during production time)



Grounding for electrostatic breakdown prevention

1. Human body grounding

   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding

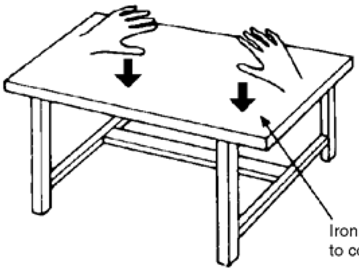
   Put a conductive material (sheet) or steel sheet on the area where the traverse unit (with optical pickup) is place, and ground the sheet.

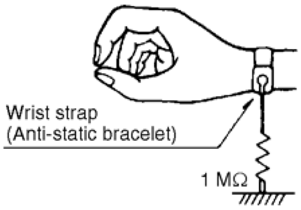
Caution :

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse unit (with optical pickup).

Caution when replacing the Traverse Unit

The traverse unit has a short point shorted with solder to protect the laser diode against electrostatics breakdown. Be sure to remove the solder from the short point before making connections.


Iron plate or some metals
to conduct electricity


Wrist strap
(Anti-static bracelet)
1 MΩ

4 Precaution of Laser Diode

Caution :

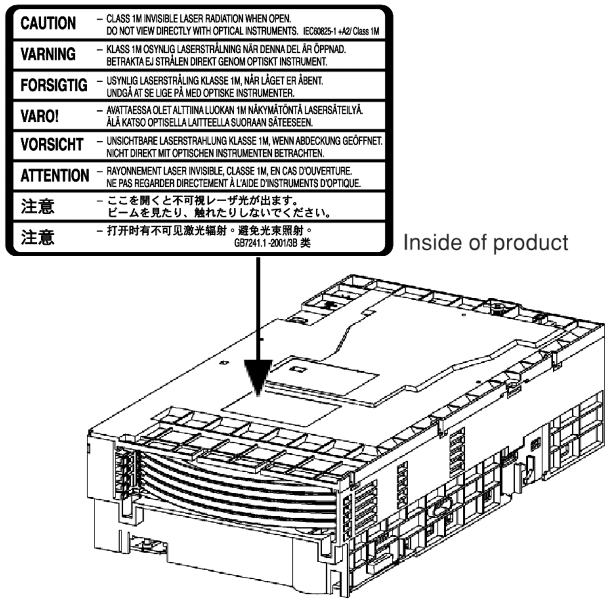
This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.
Wavelength : 780 nm
Maximum output radiation power from pick up : 100 μW/VDE
Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

n Use of Caution Labels





5 About Lead Free Solder (PbF)

5.1. Service caution based on legal restrictions

5.1.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder. (See right figure)	PbF

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.
  (Definition: The letter of "PbF" is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

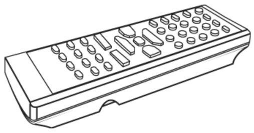
- The following 3 types of lead free solder are available through the service parts route.
  RFKZ03D01K----------(0.3mm 100g Reel)
  RFKZ06D01K----------(0.6mm 100g Reel)
  RFKZ10D01K----------(1.0mm 100g Reel)

Note

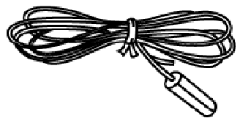
* Ingredient: Tin (Sn), 96.5%, Silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

6 Accessories

Note: Refer to “Replacement Parts List” (Section 24) for part number.



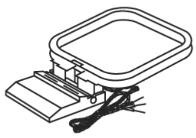
Remote Control



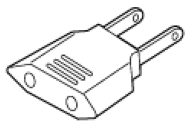
FM Antenna Wire



AC Cord



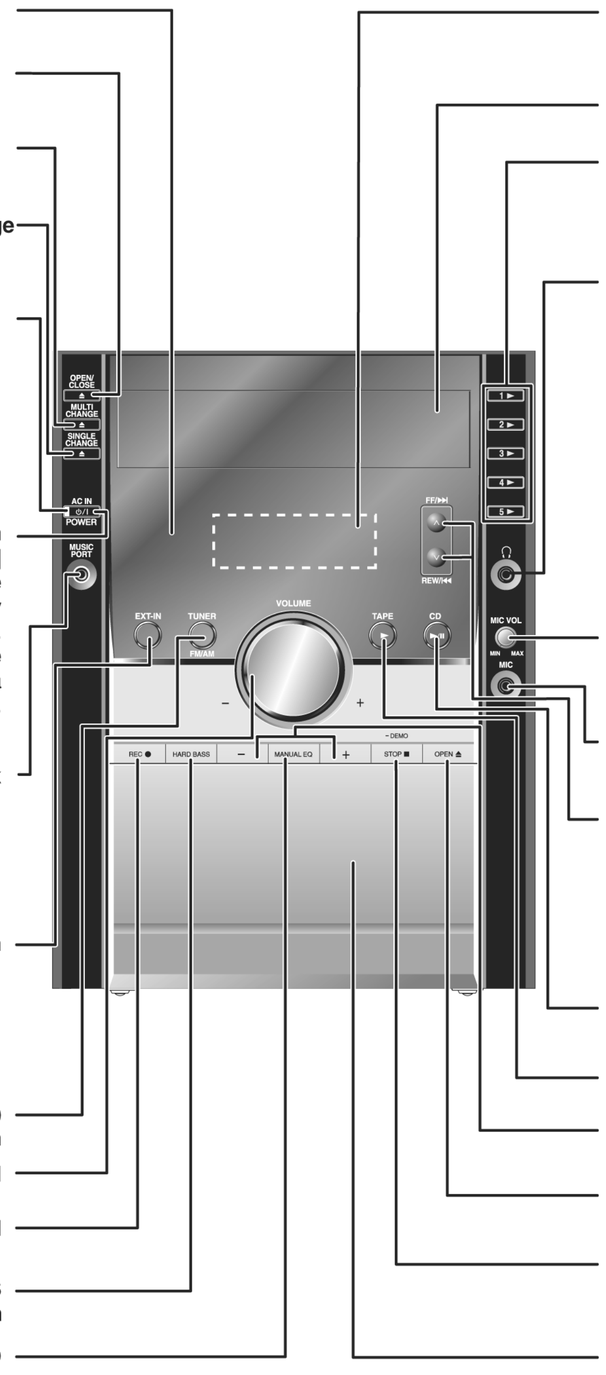
AM Loop Antenna



Power Plug Adapter

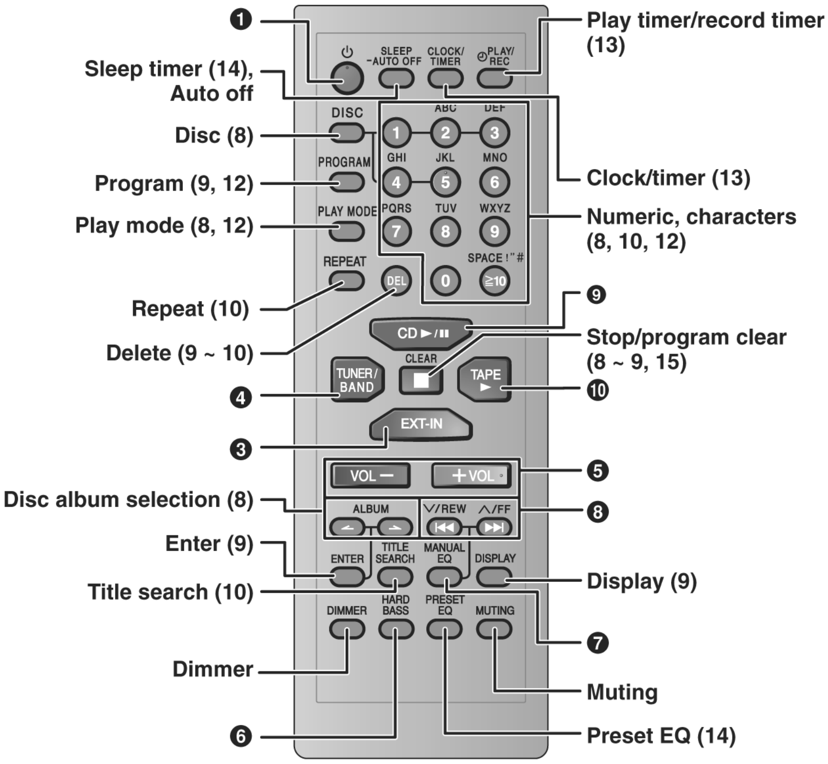
7 Operating Procedures

7.1. Main Unit Key Buttons Operations



7.2. Remote Control Key Buttons Operations

Buttons such as ❶ function the same as the controls on the main unit.



SLEEP -AUTO OFF

This auto off function allows you to turn off the unit in **disc, tape or USB** mode only after left unused for 10 minutes.

- Press and hold [–AUTO OFF] to activate the function.
- Press and hold [–AUTO OFF] again to cancel.
- The setting is maintained even if the unit is turned off.

DIMMER -⊙PLAY/REC / DIMMER

To dim the display panel.

MUTING

To mute the sound.

- Press the button to activate.
- Press again to cancel.

8 New Features

8.1. Using the Music Port

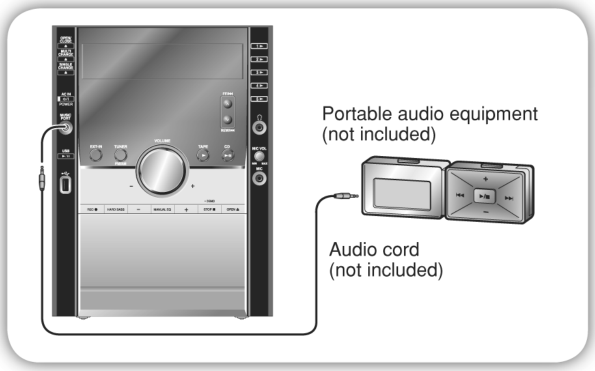
This feature enables you to enjoy music from a portable audio equipment.

External unit

Connecting to a portable audio equipment

This feature enables you to enjoy music from a portable audio equipment.

Note:
All peripheral components and cables are sold separately.

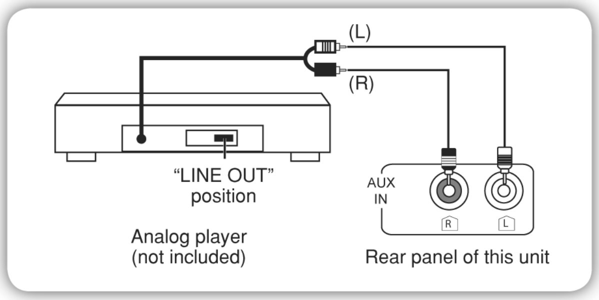


Playing from a portable audio equipment

EXT-IN

Switch off the equalizer function (if there is any) of the portable audio equipment before you plug into the MUSIC PORT jack. Otherwise, sound from the speaker may be distorted.

1. **Plug the audio cord into the MUSIC PORT jack.**
2. **Press [EXT-IN] repeatedly until “MUSIC PORT” is displayed.**
3. **Play the portable audio equipment.**



Playing or recording from an external unit

REC ●

You can connect to an analog player with a built-in phone equalizer.

1. **Press [EXT-IN] repeatedly until “AUX” is displayed.**
2. **For listening :** Proceed to step 3.
   For recording : Press [●, REC] on the main unit to start recording.
3. **Start playback from the external source.**

Note:
- For details, refer to the instruction manual of the unit which is to be connected.
- When units other than those described above are to be connected, please consult your audio dealer.
- Sound distortion may occur when you use an adaptor other than the one supplied.

With reference to page 15 of the operating instruction manual.

9 Self diagnosis and special mode setting

This unit is equipped with functions for checking and inspecting namely: Self-Diagnostic and Test Mode.

9.1. Service Mode Summary Table

The service modes can be activated by pressing various button combination on the main unit and remote control unit. Below is the summary for the various modes for checking:

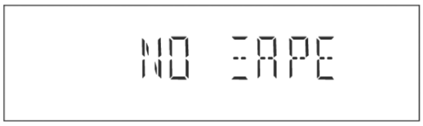
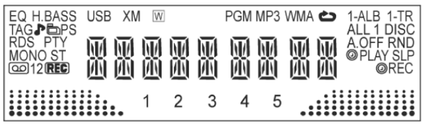
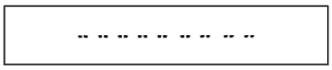
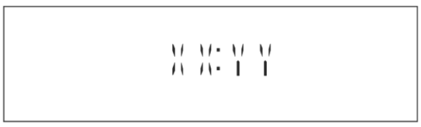
Player button	Remote control button unit	Application	Note
[■]	[4], [7]	Entering into Doctor Mode	Refer to the section, “9.2 Special Mode Table 1 for more information.

Mode	Remote control button unit	Application	Note
In Doctor Mode	[STOP, ■], [4]+[7]	Display firmware version & EEPROM checksum	Refer to the section, “9.2.1 for more information.
	[4]	<Set for cold start when reset start is executed the next time>	Refer to the section, “9.2 for more information.
	[Muting]	Clock Setting	Refer to the section, “9.2 for more information.
	[0]	Tape Eject Test	Refer to the section, “9.2 for more information.
	[DIMMER]	All segment display for the FL	Refer to the section, “9.2 for more information.
	[DISC]	CRS1 Inspection	Refer to the section, “9.2 for more information.
	[7]	Volume 50 Setting check	
	[8]	Volume 41 Setting check	
	[9]	Volume 35 Setting check	
	[>10]	Volume 0 Setting check	
	[PRESET EQ]	EQ Off	
	[H. Bass]	EQ Heavy	
	[PROGRAM]	HIC force MUTE ON/ OFF	
	[5]	CD To Tape recording Inspection	
	[6]	Tape record’s playback	
	[SLEEP]	TPS Inspection	
	[<]	FM Tuning check	
	[>]	Tuner STEREO/ forced MONO	
	[⏮]	FM Checking	
	[⏭]	AM Checking	

9.2. Special Mode Table 1

Item		**FL Display**	**Key Operation**
Mode Name	**Description**		**Front Key**
Self -Diagnostic Mode	To enter into self diagnostic checking for main unit.		1. Select [TAPE, ►] for TAPE mode (Ensure no tape is inserted). 2. Press and hold [STOP, ■]button for 3 seconds follow by [FF/ ⏭]. To exit, press [⏻/I, POWER] button on main unit or remote control.

Item		FL Display	Key Operation
Mode Name	**Description**		**Front Key**
Doctor Mode	To enter into Doctor Mode for checking of various items and displaying checksum and software version. FL Display sequence: Display 1 → 2	1. All segments will light up for 1 second. (Display 1) XX=YYY Opecon Version EEPROM Checksum (if applicable) 2. The Check Sum of EEPROM and firmware version will be display. (Display 2) NO DISC * ROM correction ** Firmware version No:	In any mode: 1. Press [STOP, ■] button on main unit follow by [4] and [7] on remote control. To exit, press [ENTER] button on remote control or [⏻/I, POWER] button on main unit.
CD Test Mode	To enter into checking the reliability of changer unit.	CD TEST	In any mode: 1. Select [CD, ▶/II] for CD mode. 2. Press and hold [STOP, ■] button for 3 seconds follow by [FF/▶▶I]. To exit, press [⏻/I, POWER] button on main unit or remote control.
CD Auto Adjustment	To check the CD auto adjustment result for FLOCK, TLOCK and CLVS. FLOCK: Focus Lock TLOCK: Traverse Lock CLVS: Constant Linear Velocity Speed	00=00 Self adjustment result CLVS (I: NG, O: OK) TLOCK (I: NG, O: OK) FLOCK (I: NG, O: OK)	In CD Test Mode: 1. Press [0] button on the remote control. To exit, press [⏻/I, POWER] button on main unit or remote control.
CD Changer Reliability Test (CRS1)	To determine the reliability of CD Changer Unit. (For more information, refer to section 9.3)	00001	In Self-Diagnostic Mode: 1. Select [CD, ▶/II] for CD mode. 2. Press [REW/I◀◀] button. To exit, press [⏻/I, POWER] button on main unit. (The tray will return to PLAY position and then power off)

Item		FL Display	Key Operation
Mode Name	**Description**		**Front Key**
SRVC_TRV	To unlock the traverse unit for service. FL Display sequence: Display 1 → 2	(Display 1)  (Display 2) 	In TAPE mode: 1. With no cassette tape inserted, 2. Press [STOP, ■] , [FF/▶▶I] button on main unit. 3. Press [SINGLE CHANGE] on main unit. To exit, press [[⏻/I, POWER]] button on main unit.
Open/ Close Test	To check the function operation of changer unit. (For more information, refer to 9.3)		In doctor mode: 1. Press [DISC] on remote control. To exit, press [ENTER] button on remote control or [⏻/I, POWER] button on main unit.
Tape Eject Test	To check on the tape eject function (For deck 1/2)		In doctor mode: 1. Press [0] button on remote control.
FL Display Test	To check the FL segments display (All segments will light up and LED will blink at 0.5 second interval)		In doctor mode: 1. Press [DIMMER] button on remote control.
Cold Start	To activate cold start upon next AC power up.		In doctor mode: 1. Press [4] button on remote control. To exit, press [ENTER] button on remote control or [⏻/I, POWER] button on main unit.
Clock Setting Check	To indicate that a clock time was set properly		In doctor mode: 1. Press [MUTING] button on remote control.

9.2.1. EEPROM Checksum (ROM Correction)

Purpose: To check for microprocessor firmware version and EEPROM checksum (ROM correction).

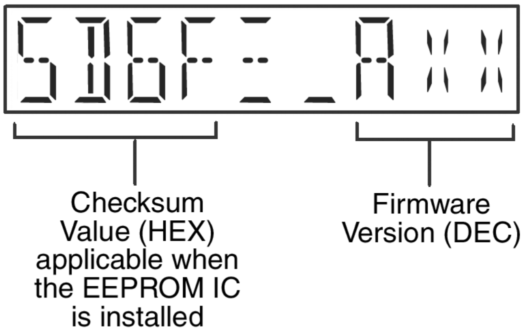
Below are the procedures for this mode.

Step 1: Enter into Doctor mode (for more information, refer to section 9.2 on the key operation to enter into this mode.

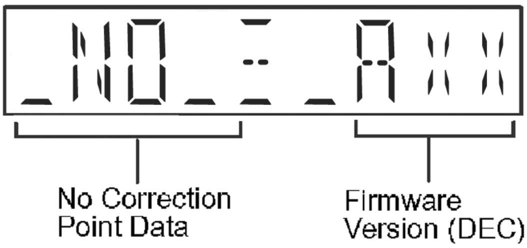
Step 2: Check for firmware version and EEPROM checksum (By pressing STOP button on main unit followed by “4” and “7” on remote control).

- When entering into DOCTOR MODE, the firmware version and checksum data of EEPROM (if applicable) will appear on FL display. Below is the information on the EEPROM IC (ROM correction) under 3 possible situations:

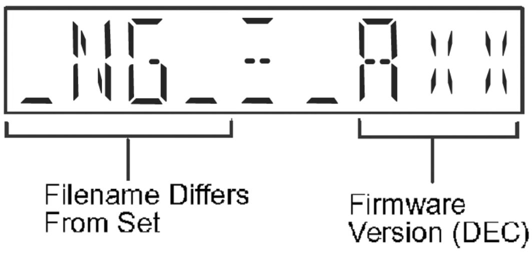
1. In the case that the correction point existence data is other than 0 (ie. correction file exists), EEPROM checksum display for the microprocessor shall be made after calculating checksum by summing up the content of data area from EEPROM IC.



2. In the case when no EEPROM IC is installed. It is display as below (no display of checksum data)



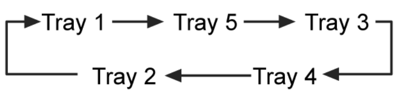
3. In cases that the filename is different even though a EEPROM is installed, or no correction file exists, [NG] shall be displayed (the correction point existence data is set to 0 at this condition).



Note: Microprocessor firmware refers to version number for microprocessor IC located on PANEL P.C.B.. It is subject to change which would be updated accordingly. ROM correction checksum refers to the HEX code that is displayed upon key buttons pressed if an EEPROM is loaded in the unit.

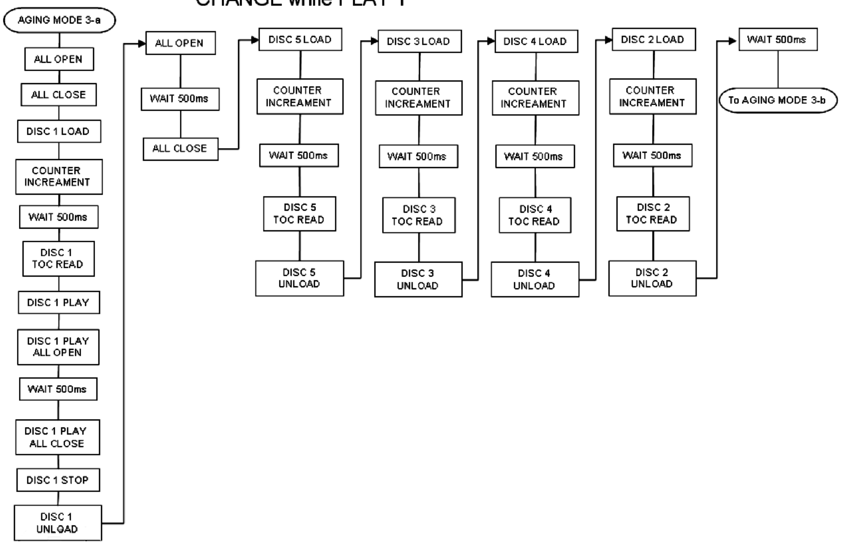
9.3. Reliability Test Mode (CRS1 Mechanism)

Below is the process flow chart of ageing for the CD changer unit. (CRS1)



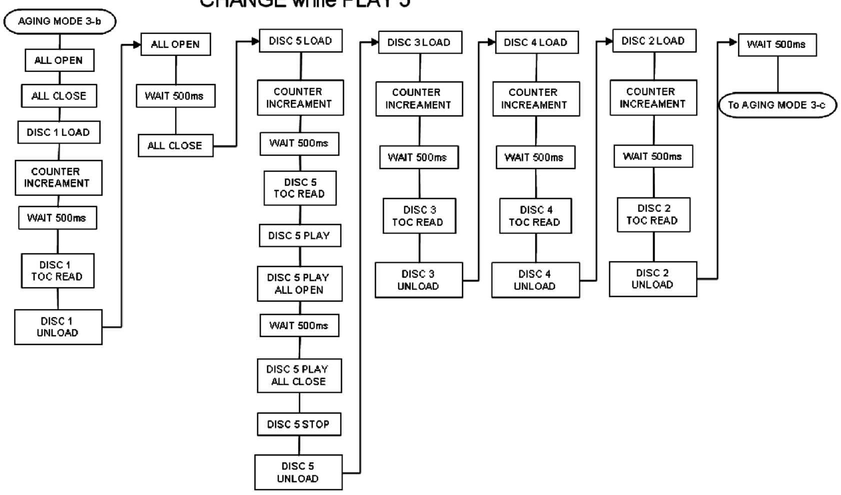
Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle)

CHANGE while PLAY 1



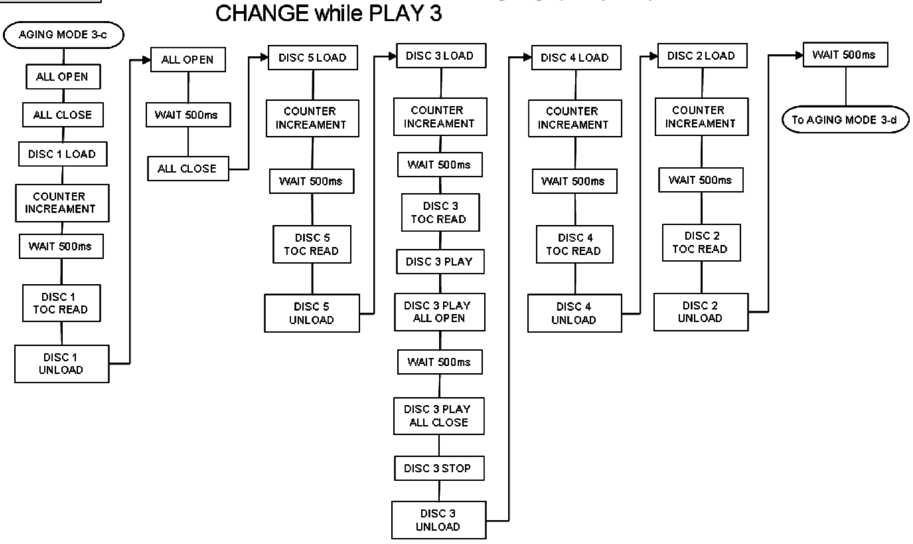
Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle)

CHANGE while PLAY 5

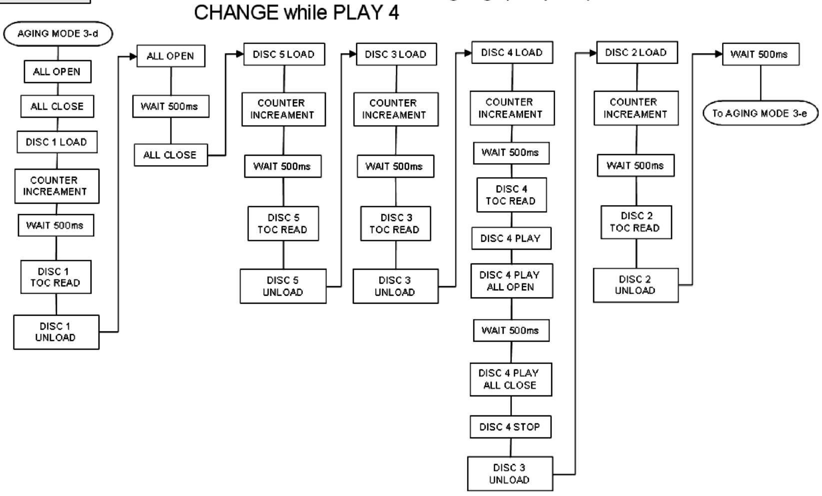


Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle)

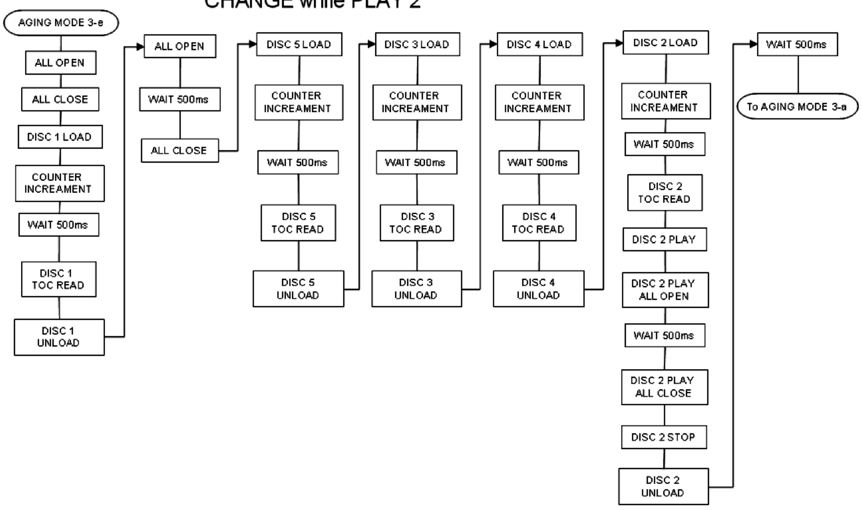
CHANGE while PLAY 3



Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle)
CHANGE while PLAY 4



Mode 3 PLAY-CHANGE-OPEN mode aging (1 cycle)
CHANGE while PLAY 2



9.4. Error code Table Display

Self-Diagnosis Function (refer Section 9.2) provides information on any problems occuring for the unit and its respective components by displaying the error codes. These error code such as U**, H** and F** are stored in memory and held unless it is cleared.

The error code is automatically display after entering into self-diagnostic mode.

9.4.1. Error Code Table for Deck Mechanism

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
H01	Mode SW abnormal	Normal operation during mecha transition, MODE SW abnormal is memorized. The content of abnormality can be confirmed in the abnormal detection mode explained in the later section.		For deck mechanism unit. Press [STOP, ■] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
H02	Rec INH SW abnormal		H02	For deck mechanism unit. Press [STOP, ■] on main unit for next error.
H03	HALF SW abnormal		H03	For deck mechanism unit. Press [STOP, ■] on main unit for next error.
F01	Reel pulse abnormal		F01	For deck mechanism unit. Press [STOP, ■] on main unit for next error.

9.4.2. Error Code Table For CD Changer Block

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F15	RESET SW abnormal	REST SW: ON is not detected within the specified time.	F 15	For CD unit (For Traverse). Press [STOP, ■] on main unit for next error.
F26	Transmission error between CD Servo LSI IC and microprocessor IC	When set to CD mode, the sense signal does not turn “Low”, a fail safe time after system command transmission is sent.	F 26	For CD unit (For Traverse). Press [STOP, ■] on main unit for next error.
IHMS	Cam gear abnormality	Cam gear does not rotate to “HOME” position.	IHMS	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
ICSL	Cam gear/gear units abnormal	Cam gear does not rotate to “PLAY” driving position and hence does not drive playing tray to “STOCK” position.	ICLS	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
ISTK	Drive rack/gear assembly abnormal	The tray drive rack does not move to "STOCK" position. (Tray does not move to "STOCK" position)	ISTK	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
IPLY	Drive rack/gear assembly abnormal	The tray drive rack does not move to "PLAY" position. (Tray does not move to "PLAY" position)	IPLY	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
ITOP	UD assembly	UD Rack does not move to front direction. This lead to UD base not raise to top position.	ITOP	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
IUDS	UD assembly	After TOP SW is detected, UD rack does not move into tray 1 position.	IUDS	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
HOME	Cam gear/gear assembly abnormal	Cam gear does not move to "HOME" position under following conditions 1. After tray is load to "PLAY" position. 2. After tray is unload to "STOCK" position.	HOME	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
LOAD	Tray drive assembly abnormal	Tray unit does not move from "STOCK" to "PLAY" position	LOAD	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
UNLD	Tray drive assembly abnormal	Tray unit does not move from "PLAY" to "STOCK" position	UNLD	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
PDRV	Cam gear/gear assembly abnormal	Cam gear does not move from “HOME” to “PLAY” drive position.	PDRV	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
UDU	UD base asssembly abnormal	UD Base assembly does not move upwards from tray 5 to tray 2	UDU	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
UDD	UD base asssembly abnormal	UD Base assembly does not move downwards from tray 1 to tray 5.	UDD	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
F1NG	Fail - safe mode. (For open/close tray unit(s))	When the tray open operation is performed, it fails to open. It will automatically close all trays after the time-out by the microprocessor. During this time when it fails, the error code will appear.	F1NG	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
F2NG	Fail - safe mode. (For open/close tray unit(s))	When the tray close operation is performed, it fails to close. It will automatically open all trays after the time-out by the microprocessor. During this time when it fails, the error code will appear.	F2NG	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
SRVC_TRV	To unlock the traverse unit for service	1. All trays set to “STOCK” position 2. Mechanism set to tray 5 3. Cam gear set to “HOME” position	SRVC_TRV_	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
RSET	Cam gear jam/close sensor faulty	During tray re-open, the cam gear will rotate in the opposite direction to reset the cam gearposition. When it fails, the error code will appear.	RSET	For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

9.4.3. Error Code Table For Power Supply

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F61	Power Amp IC output abnormal	Upon power on, PCONT=HIGH, DCDET=L after checking LSI.		For power. Press [STOP, ■] on main unit for next error.

9.4.4. CRS1 Error Code display

CRS1 Error Code display

1. The errors that occured in CRS1 Mechanism can be recalled and displayed, in the order of the occurence under self-diagnostic for procedures to enter this mode.
   - Only the first 5 errors will be memorized (in backup memory). The subsequence error shall be ignored and not memorize. For system with EEPROM as memory backup,memory space in EEPROM is neccesary.
2. To display all error code memorized
   In CRS1 Self-Diagnostic mode, press [SINGLE CHANGE] to display subsequence error code.
   It shall repeat after reaching error no. 5.
   e.g.:
   [1 _ _ _ _ I H M S] → [SINGLE CHANGE]
   [2 _ _ _ _ I T O P] → [SINGLE CHANGE]
   [3 _ _ _ _ H O M E] → [SINGLE CHANGE]
   [4 _ _ _ _ L O A D] → [SINGLE CHANGE]
   [5 _ _ _ _ _ U D D] → [SINGLE CHANGE]
3. To clear the error code memory
   In CRS1 Self-Diagnostic mode, long press [SINGLE CHANGE] key (2s or more)

10 Assembling and Disassembling

10.1. Caution

Special Note:

This model uses a new CD changer unit CRS1. In this following section does not contain the necessary disassembly & assembly information for the CD changer unit (CRS1) except the disasembly & assembly of traverse unit. Kindly refer to the original service manual for the CD changer unit. (Order No. MD0509368C0).

"ATTENTION SERVICER"

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures.
   Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.
4. Refer to the Parts No. on the page of "Parts Location and Replacement Parts List" (Section 24), if necessary.

Caution:

After replacing of CD Changer Unit, ageing test is necessary. Please confirm operation for CD Changer Unit.

Below is the list of disassembly sections

- **Disassembly of Top Cabinet**
- **Disassembly of Rear Panel**
- **Disassembly of CD Changer Unit (CRS1)**
- **Disassembly of Main P.C.B.**
- **Disassembly of Transformer P.C.B.**
- **Disassembly of Power P.C.B.**
- **Disassembly of Front Panel Unit**
- **Disassembly of Panel P.C.B.**
- **Disassembly of Tact Switch P.C.B.**
- **Disassembly of Deck Mechanism Unit**
- **Disassembly for Deck P.C.B.**
- **Disassembly of Traverse Unit**
- **Disassembly of Deck Mechanism**
- **Disassembly of Deck Mechanism P.C.B.**
- **Disassembly of cassette lid**
- **Rectification for tape jam problem**

CAUTION NOTE:

Please use original screws and at correct locations.

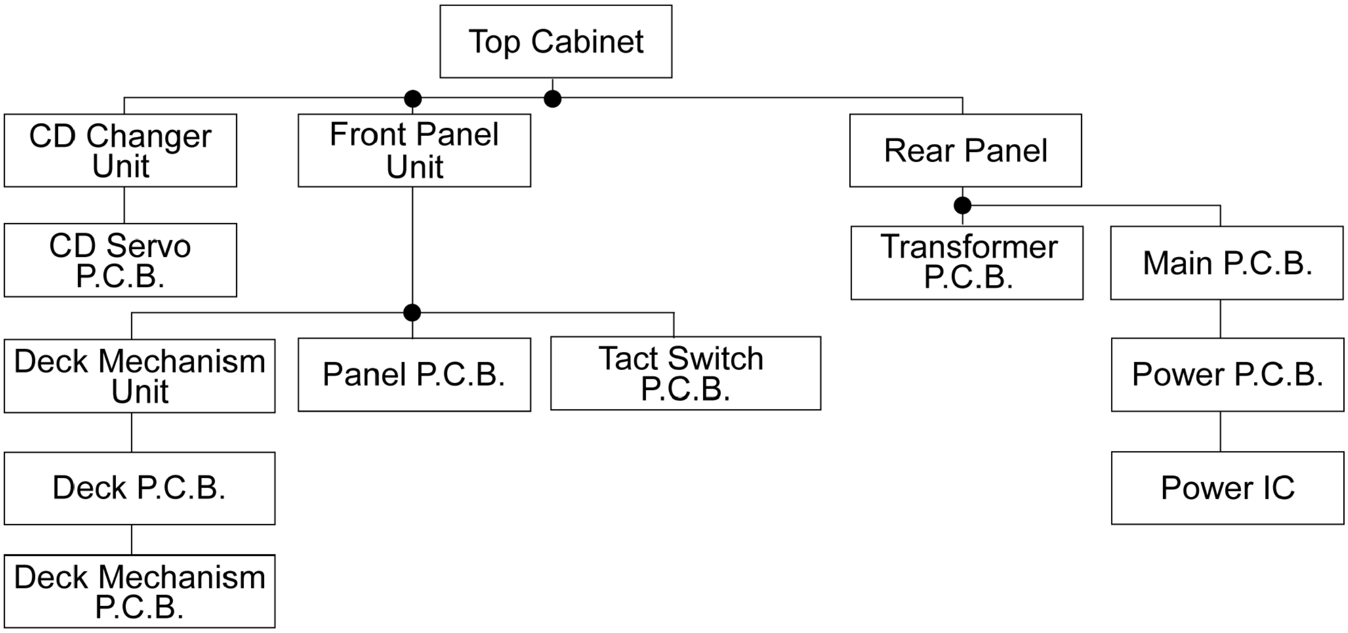
Below shown is part no. of different screws types used:

Screw Type	Part No.
a	RHD30007-1SJ
b	RHD30119-S
c	XTW3+12TFJ
d	RHD30111-3
e	XTW3+10TFC
f	RHD26046-L
g	XTWS3+6TFJ
i	XTV3+10GFJ-M
p	XTW2+5LFJ
q	XTW26+10SFJ
r	RHD26022-1
s	XYC2+JF17FJ

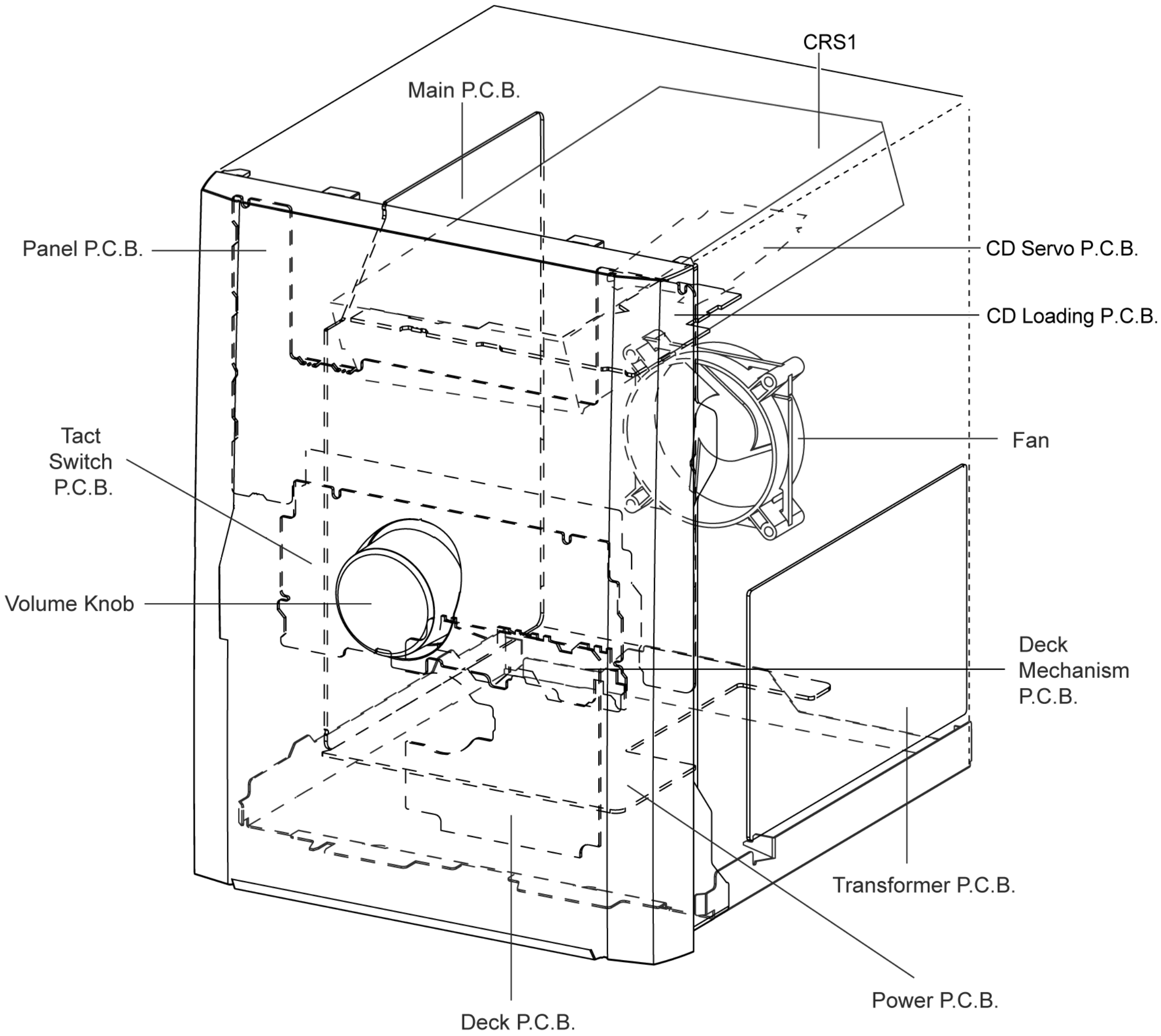
10.2. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart as below.



10.3. Main Parts Location



10.4. Disassembly of Top Cabinet

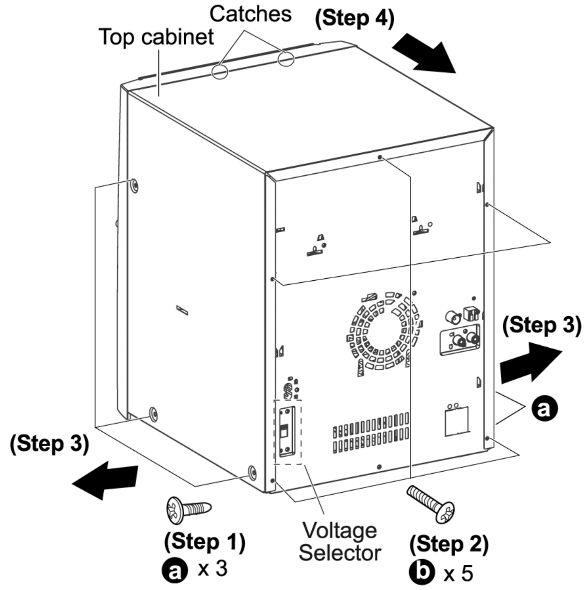
Step 1 Remove 3 screws on both sides on top cabinet.

Step 2 Remove 5 screws at the rear.

Step 3 Lift the sides of top cabinet outwards.

Step 4 Push the top cabinet backwards to release catches.

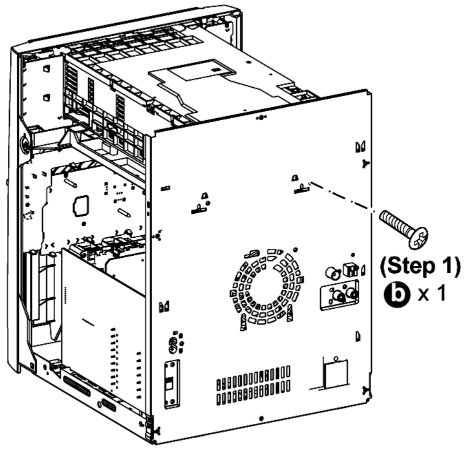
Step 5 Remove top cabinet.



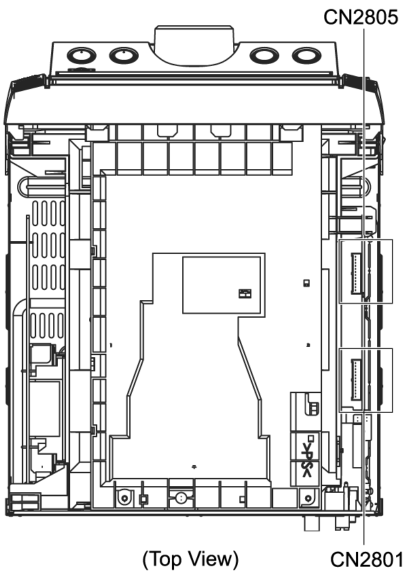
10.5. Disassembly of CD Changer Unit (CRS1)

· Follow the (Step 1) - (Step 5) of Item 10.4

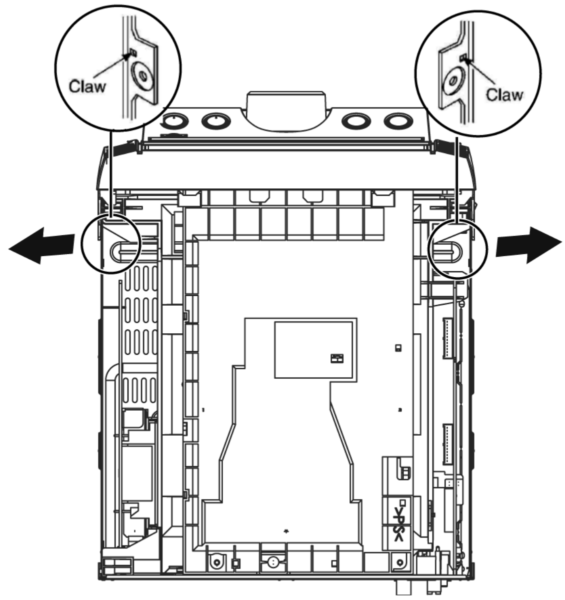
Step 1 Remove 1 screw at rear panel.

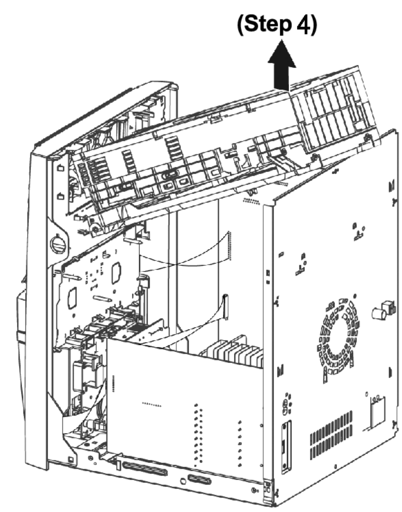


Step 2 Detach the FFC cables at connectors (CN2801 & CN2805) on Main P.C.B..



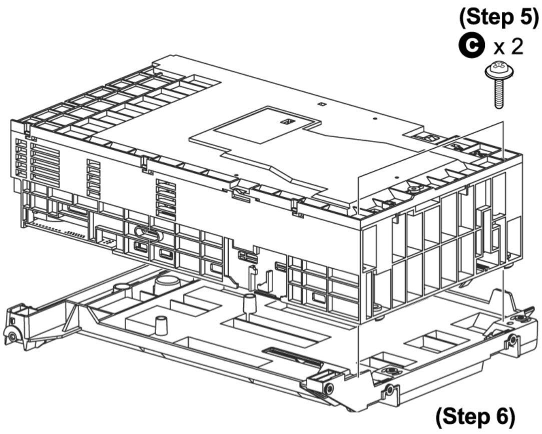
Step 3 Release the claws outwards on both ends.





Step 4 Lift the CD changer unit upwards to remove it.

· **Disassembly of Mecha Chassis**



Step 5 Remove 2 screws.

Step 6 Remove the Mecha Chassis.

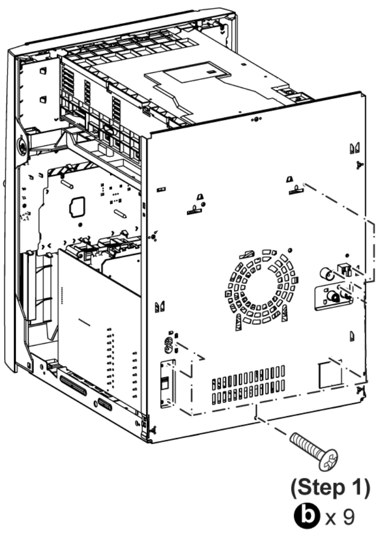
Note:

For disassembly & assembly of traverse unit, please refer to section 10.15 of this service manual. Please refer to original Service Manual for the Disassembly and Assembly of the CD Changer Unit (CRS1).

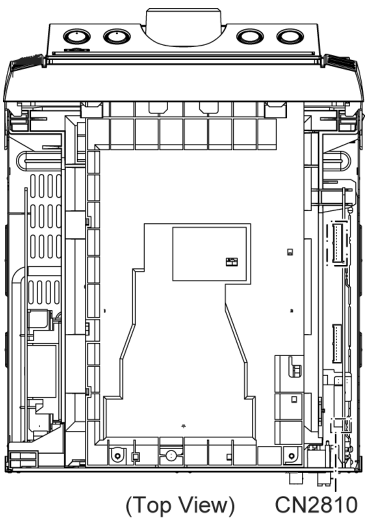
10.6. Disassembly of Rear Panel

· Follow the (Step 1) - (Step 5) of Item 10.4

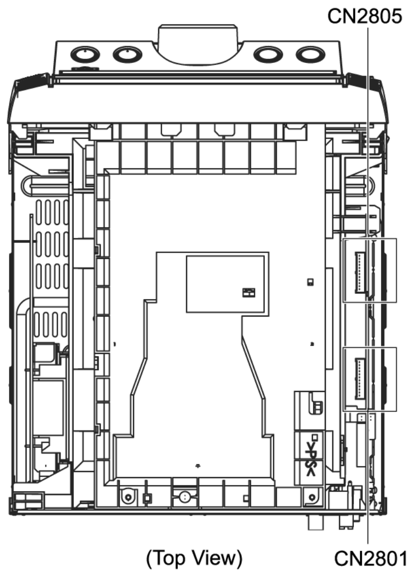
Step 1 Remove 9 screws.



Step 2 Detach cable at connector CN2810 on Main P.C.B..



Step 3 Detach FFC cables at connectors (CN2801 & CN2805) on Main P.C.B..

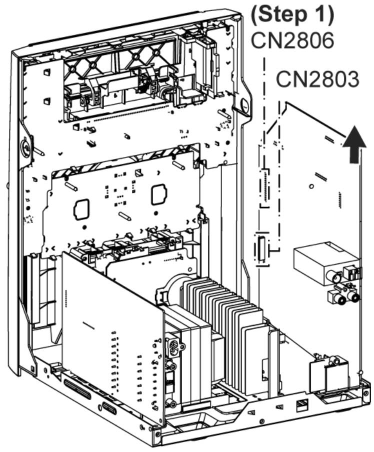


Step 4 Remove rear panel.

10.7. Disassembly of Main P.C.B.

- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 4) of Item 10.6

Step 1 Detach FFC cables at connectors (CN2803 & CN2806) on Main P.C.B..



Step 2 Remove Main P.C.B..

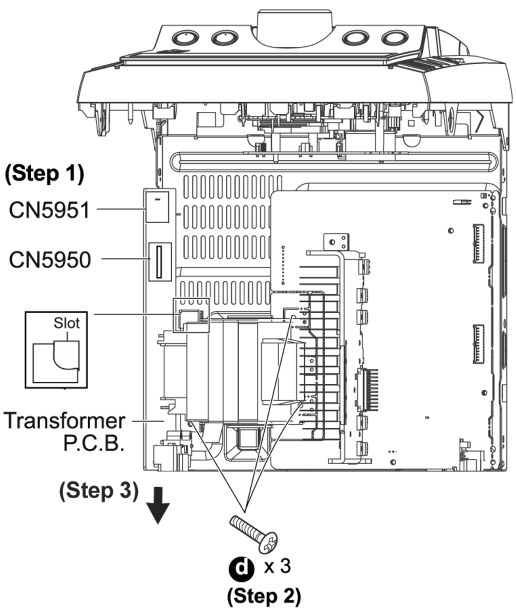
10.8. Disassembly of Transformer P.C.B.

- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 4) of Item 10.6

CAUTION: HOT!!
DO NOT TOUCH THE
HEAT SINK

Step 1 Detach cables at connectors (CN5950 & CN5951) on Transformer P.C.B..

Step 2 Remove 3 screws (Mounting screws for transformer to bottom chassis).



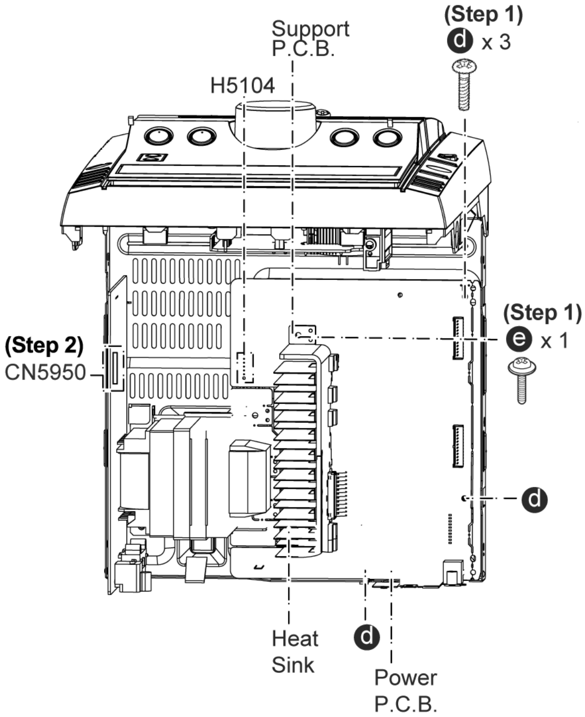
Step 3 Push the Transformer P.C.B. backwards to remove it.

10.9. Disassembly of Power P.C.B.

- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 4) of Item 10.6
- Follow the (Step 1) - (Step 3) of Item 10.7

**CAUTION: HOT!!
DO NOT TOUCH THE
HEAT SINK**

Step 1 Remove the 4 screws on Power P.C.B..



Step 2 Detach cable at connector (CN5950) on Transformer P.C.B..

Step 3 Remove Power P.C.B..

Note:

Insulate the Power P.C.B. with insulation material to avoid short circuit.

- **Replacement of Power Amp IC (IC5301).**

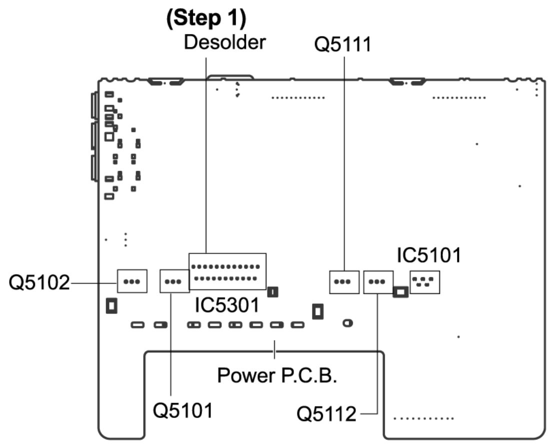
10.10. Disassembly of Front Panel Unit

- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5

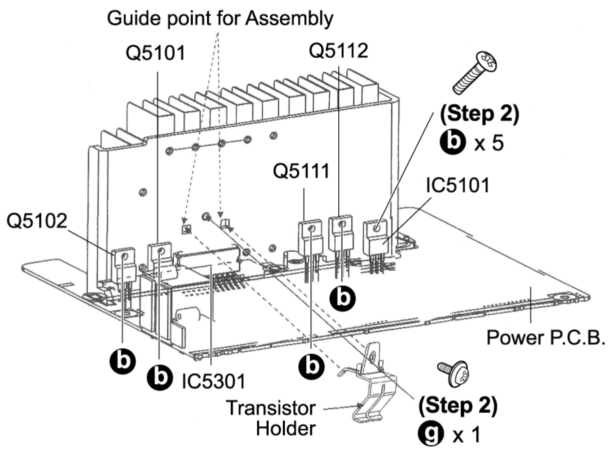
Step 1 Detach FFC cables at connectors (CN2803 & CN2806) on Main P.C.B..

Step 2 Detach cable at connector (CN5951) on Transformer P.C.B..

Step 1 Flip the Power P.C.B. over and desolder the pins.

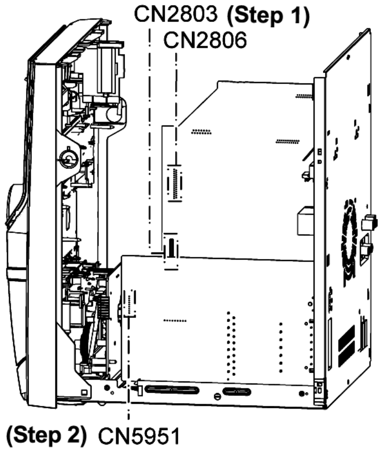


Step 2 Remove 1 screw and IC clip (For IC5301 only).

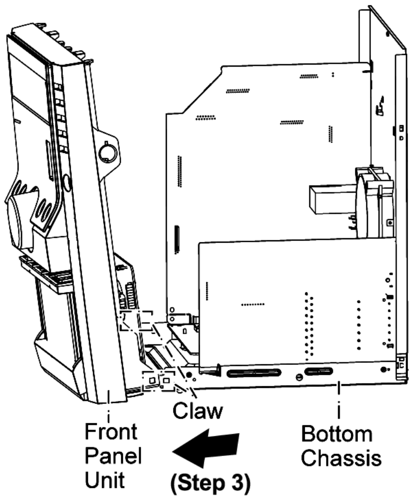


Step 3 Remove IC5301 from heat sink unit.

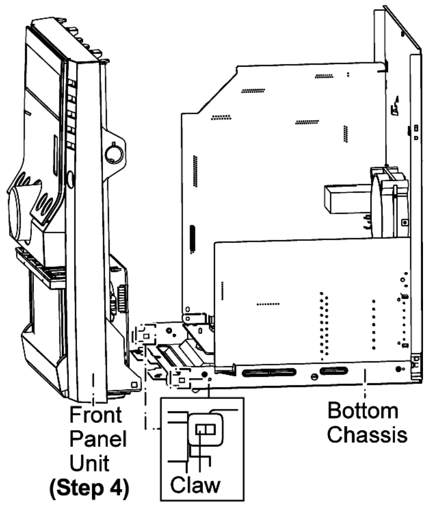
Note: For disassembly of IC5101, Q5101, Q5102, Q5111 and Q5112 repeat **(Step 1)** to **(Step 2)**. (For information, IC5101, Q5101, Q5102, Q5111 and Q5112 does not have IC clip.)



Step 3 Bent the front panel unit slightly forward as arrow shown.



Step 4 Release 2 claws outwards.



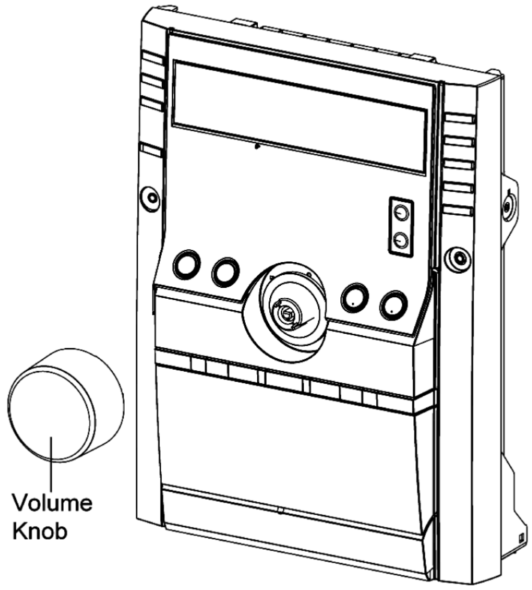
Step 5 Remove the front panel unit.

Note: Ensure 2 claws located at the bottom chassis is seated into the 2 slots at bottom of front panel at 2 catches (one on each side) of bottom chassis to be aligned to front panel’s slot. Assembly is secured upon hearing clicking sound.

10.11. Disassembly for Panel P.C.B.

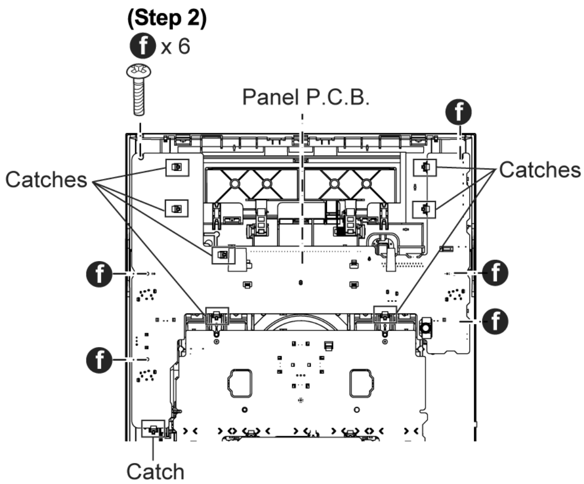
- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 5) of Item 10.10

Step 1 Remove the volume knob.



Step 2 Remove 6 screws at Panel P.C.B..

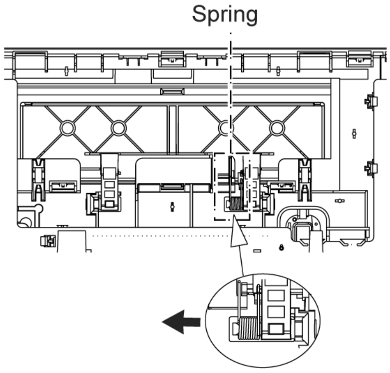
Step 3 Release 8 catches.



Step 4 Remove Panel P.C.B..

10.11.1. Disassembly of Lid

Step 1 Lift the spring sideward.



Step 2 Remove Lid.

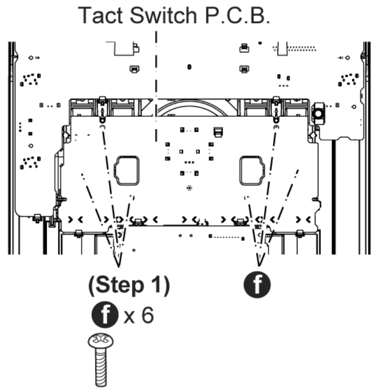
Note: Do not misplace the spring.

10.12. Disassembly of Tact Switch P.C.B.

- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 5) of Item 10.10

Step 1 Remove 6 screws at Tact Switch P.C.B..

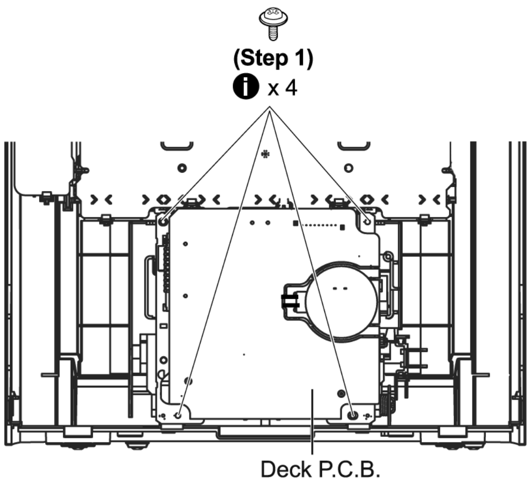
Step 2 Remove Tact Switch P.C.B..



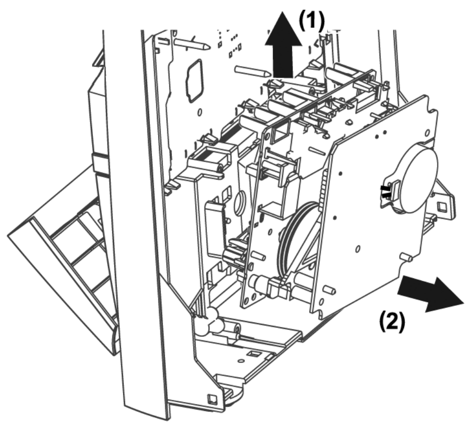
10.13. Disassembly of Deck mechanism unit

- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 5) of Item 10.10

Step 1 Remove the 4 screws.



Step 2 Push the lever upward, and then open the cassette lid ass’y.



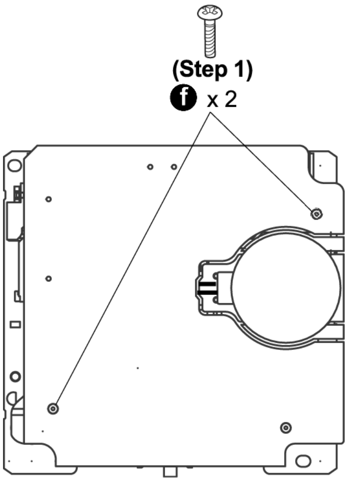
Step 3 Tilt the cassette mechanism unit in the direction of arrow (1), and then remove it in the direction of arrow (2).

Note: For disassembly of parts for deck mechanism unit, refer to Section 10.16.

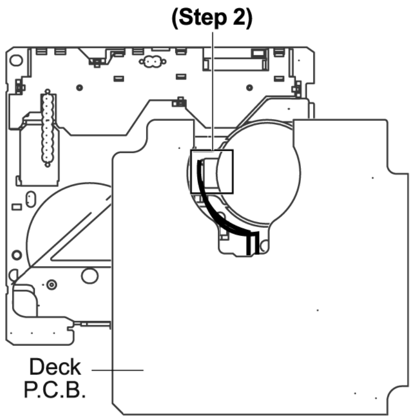
10.14. Disassembly of Deck P.C.B.

- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 5) of Item 10.10

Step 1 Remove 2 screws.



Step 2 Desolder wire at deck motor terminals.

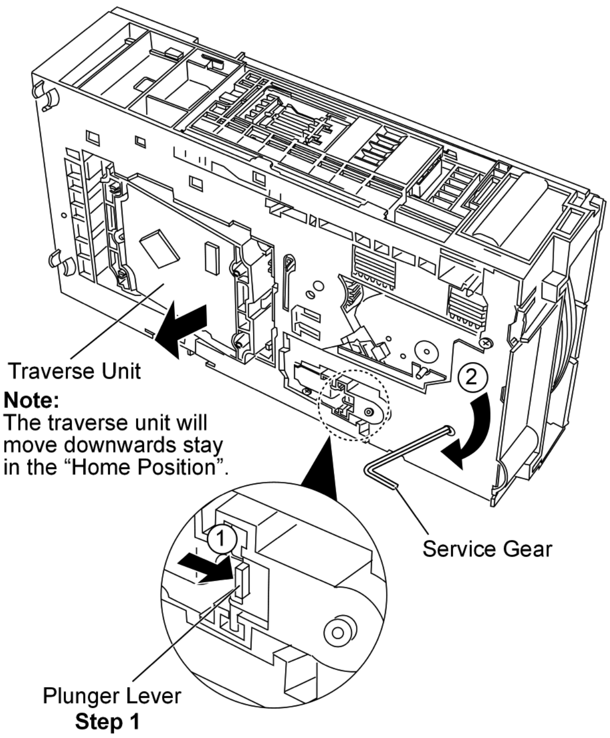


Step 3 Remove Deck P.C.B.

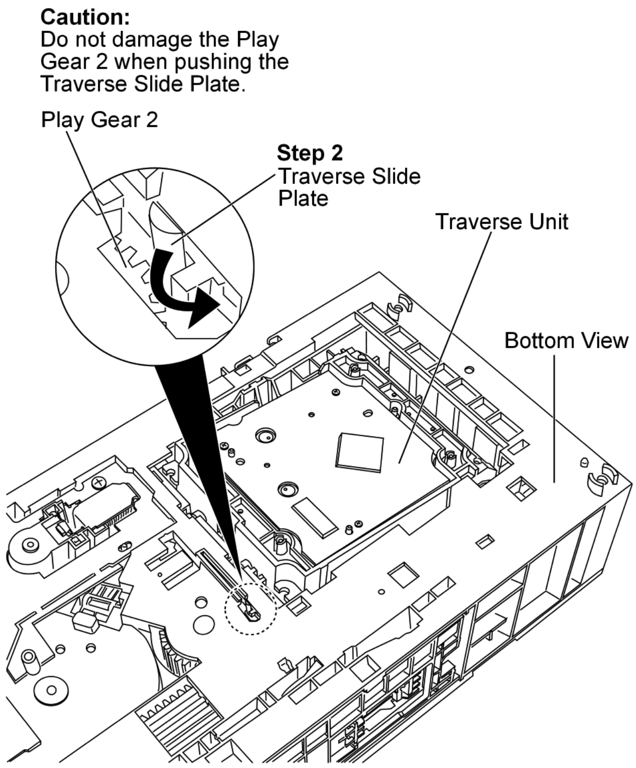
10.15. Disassembly of Traverse Unit

- Follow the (Step 1) - (Step 5) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5

Important notes: Ensure all the trays are in the "STOCK" position before proceeding to the disassemble of traverse unit. For procedures to set the trays in "STOCK" position, please refer to (5.3 Setting the Tray In "STOCK" position for CRS1 Service Manual order no. MD0509368C0)

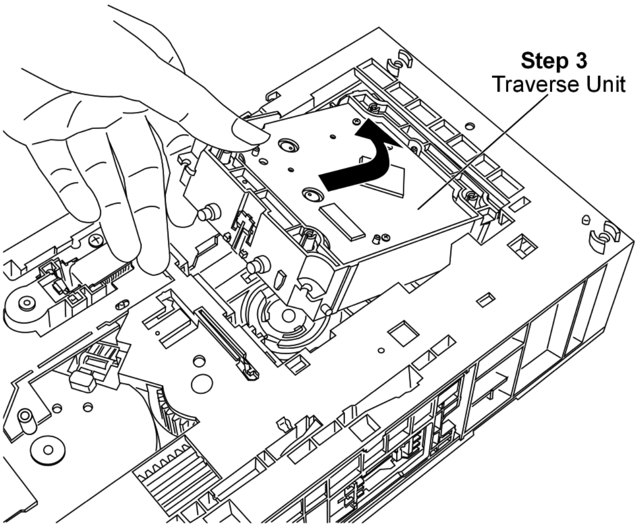


Step 1: Press and hold the plunger lever and rotate the gear as arrows shown until it stop.



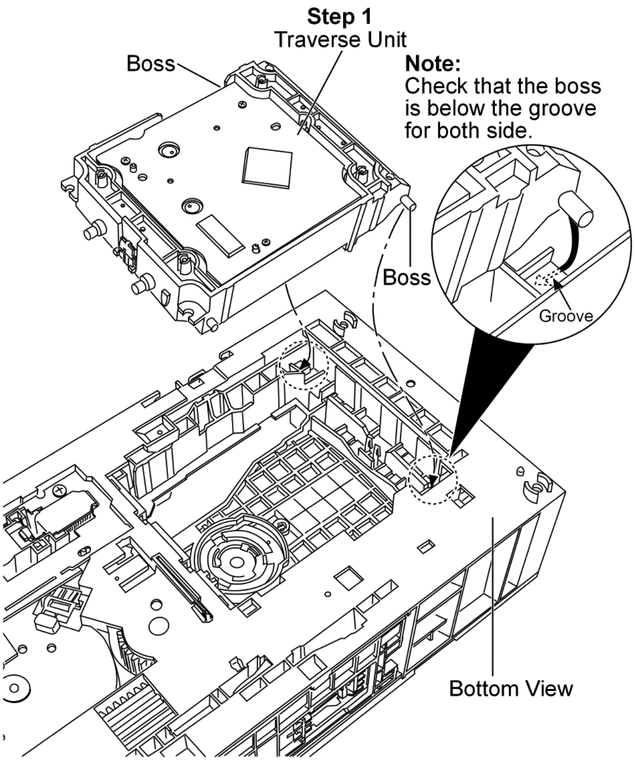
Step 2: Push the traverse slide plate as arrow shown to release the traverse unit.

Caution: Do not exert strong force on the traverse slide plate.

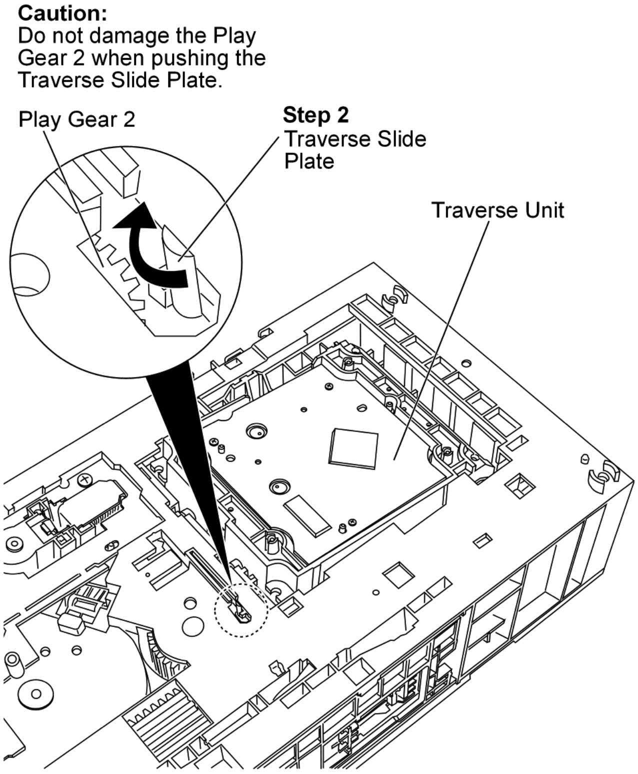


Step 3: Remove the traverse unit as arrow shown.

- Assembly of Traverse Unit



Step 1: Turn over the unit and install the traverse unit.

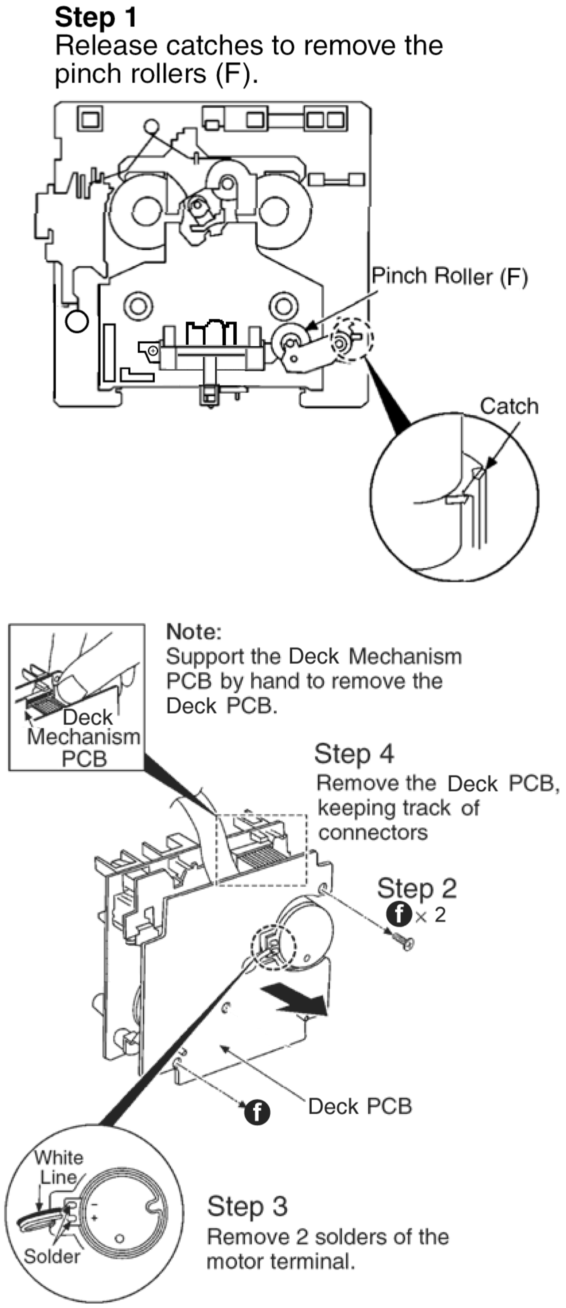


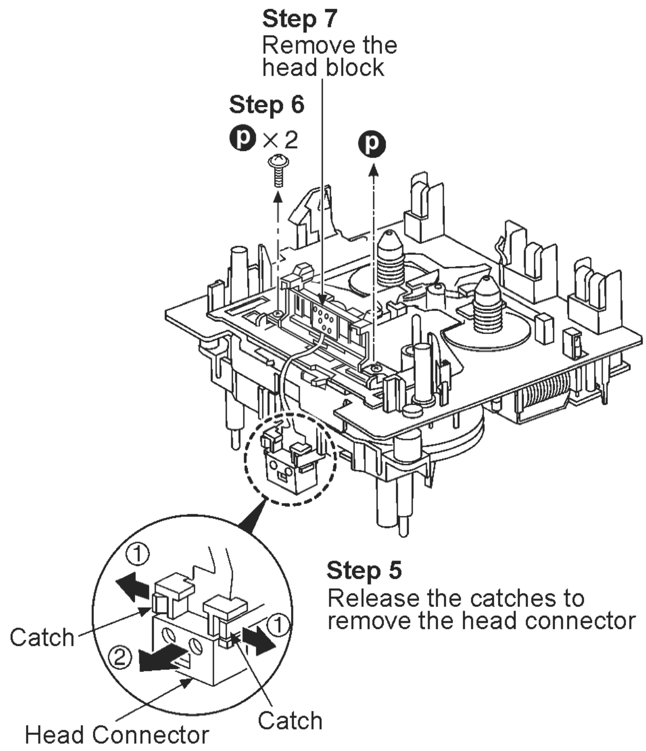
Step 2: Push the traverse slide plate as arrow shown to lock the traverse unit.

10.16. Disassembly for Deck Mechanism

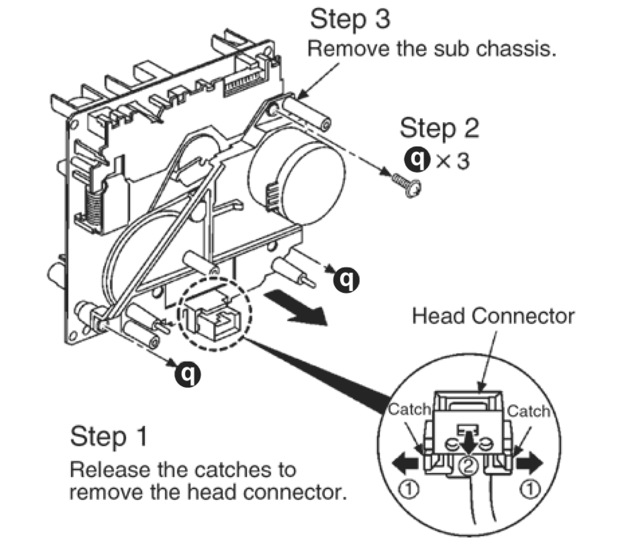
- Follow the (Step 1) - (Step 4) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 5) of Item 10.10
- Follow the (Step 1) - (Step 3) of Item 10.14
- Follow the (Step 1) - (Step 3) of Item 10.15

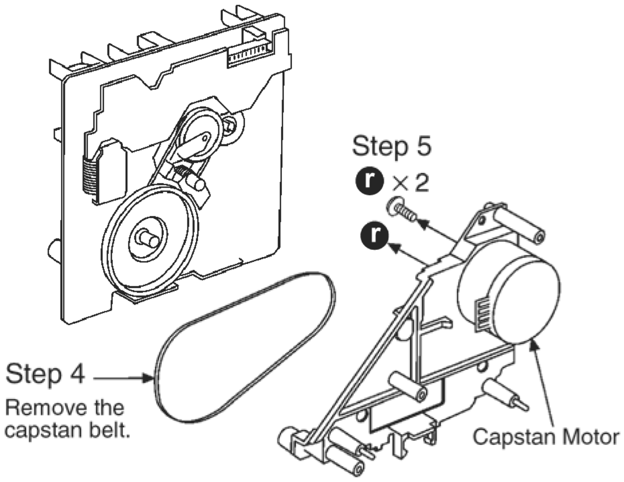
10.16.1. Replacement of Pinch Roller and Head Block

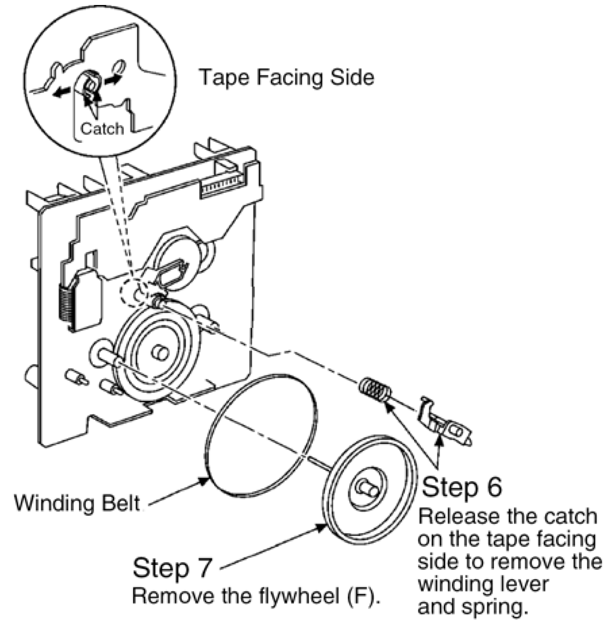


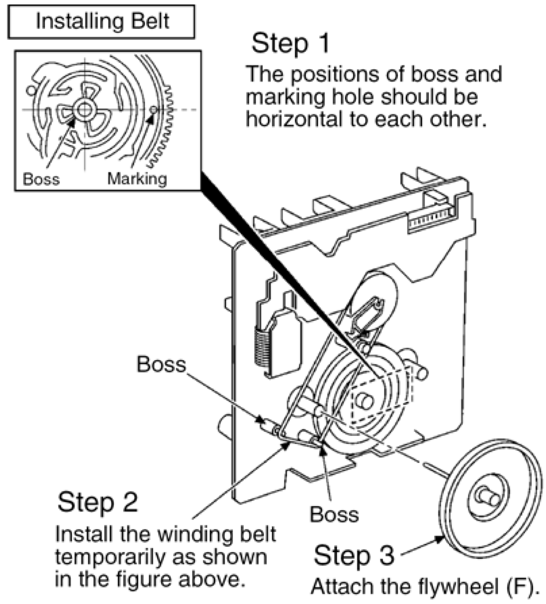


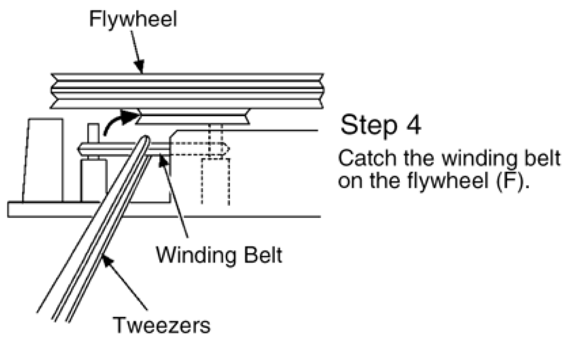
10.16.2. Replacement of Motor, Capstan Belt A, Capstan Belt B, and Winding Belt

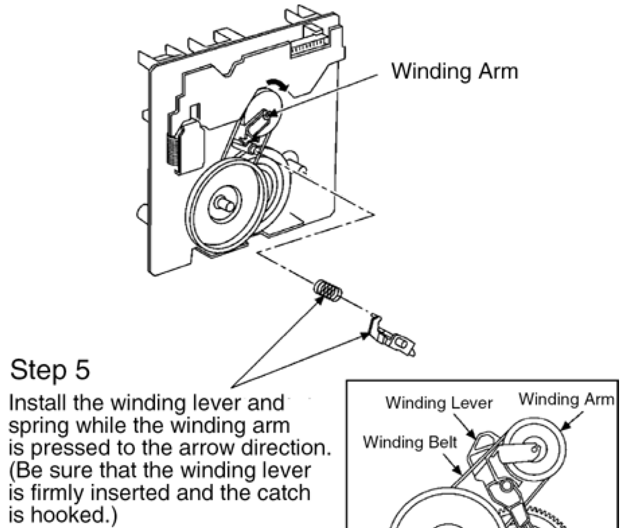




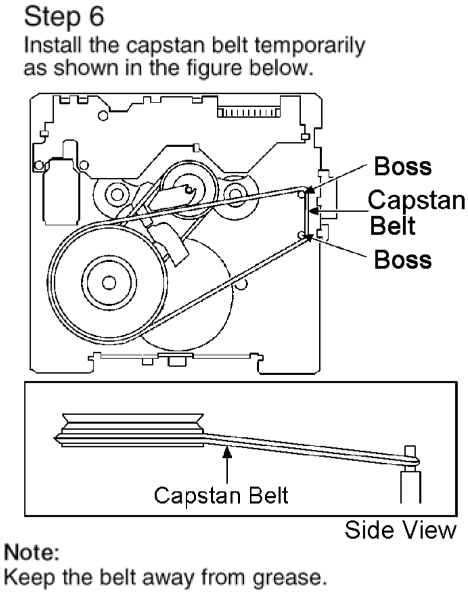


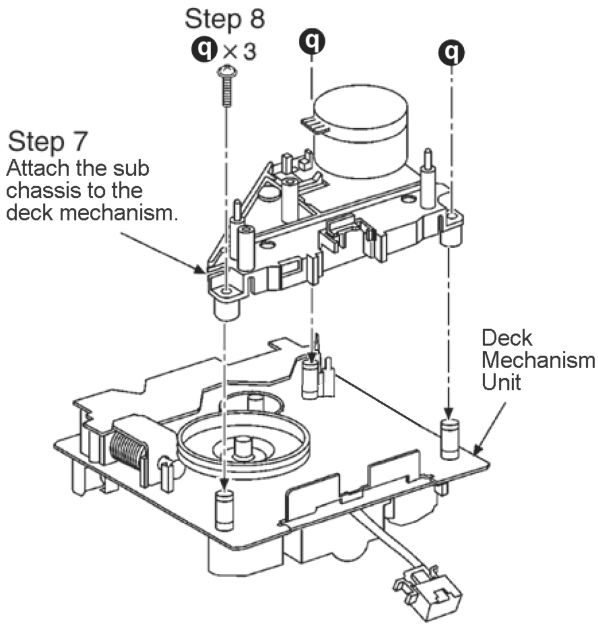


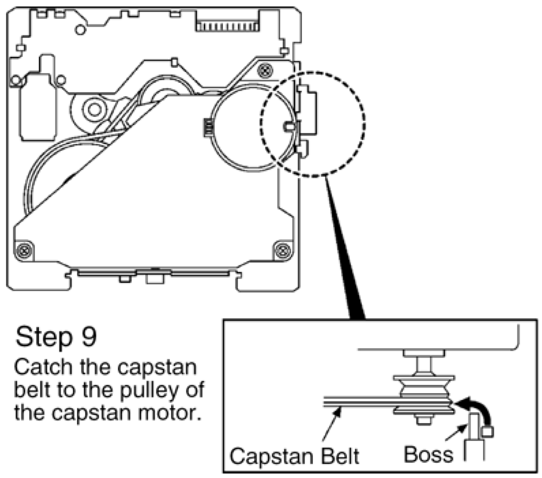




Note:
The winding lever should be positioned as shown in the right figure.







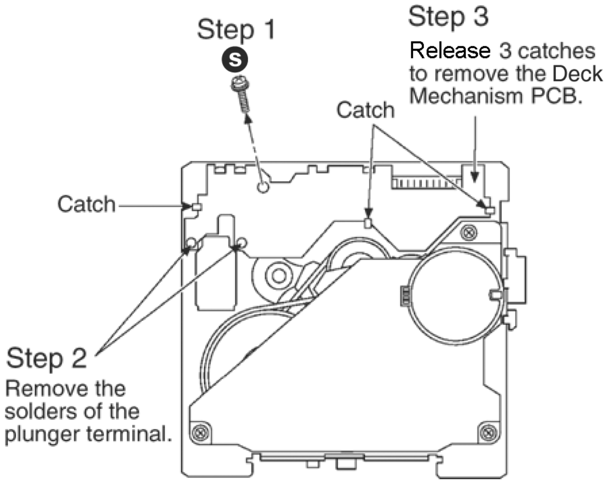
10.17. Disassembly of Deck Mechanism P.C.B.

- Follow the (Step 1) - (Step 4) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 5) of Item 10.10
- Follow the (Step 1) - (Step 3) of Item 10.13
- Follow the (Step 1) - (Step 3) of Item 10.14

Step 1 Remove 1 screw.

Step 2 Desolder plunger terminals.

Step 3 Release catches.

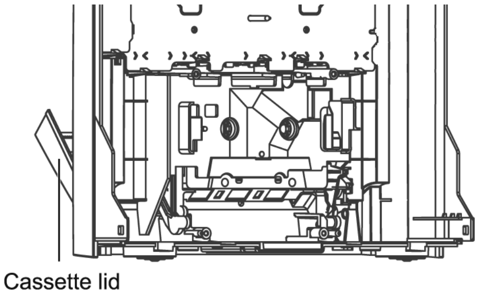


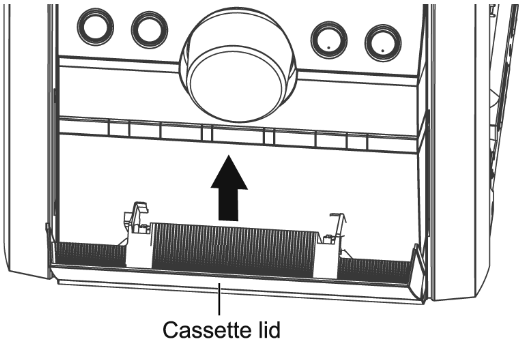
Step 4 Remove Deck Mechanism P.C.B..

10.18. Disassembly of cassette lid

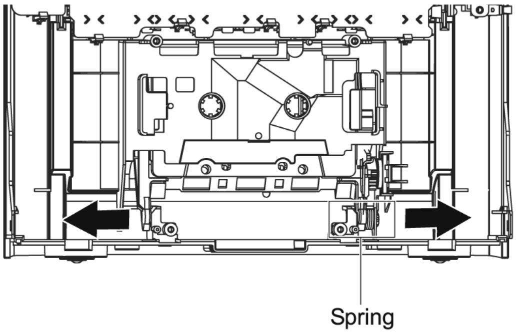
- Follow the (Step 1) - (Step 4) of Item 10.4
- Follow the (Step 1) - (Step 4) of Item 10.5
- Follow the (Step 1) - (Step 5) of Item 10.10
- Follow the (Step 1) - (Step 3) of Item 10.13

Step 1 Open the cassette lid.





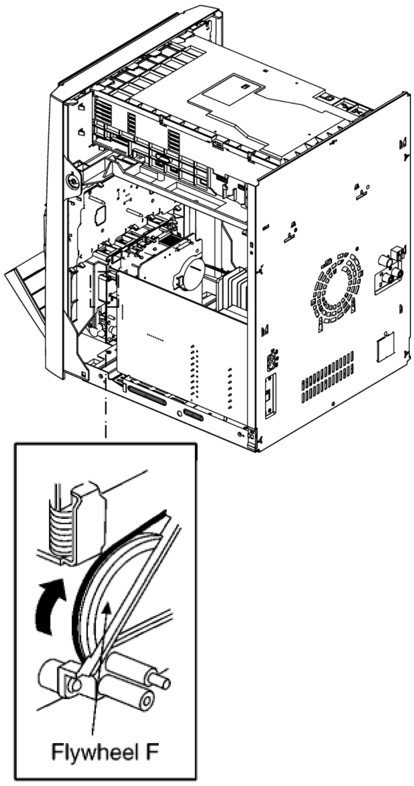
Step 2 Remove spring and push the cassette lid in the direction of arrows.



10.19. Rectification for tape jam problem

- Follow the (Step 1) - (Step 5) of Item 10.4

Step 1 If a cassette tape cannot be removed from the deck (the tape is caught by the capstan or pinch roller during playback or recording), rotate the flywheel F in the direction of the arrow to remove it.



Step 2 Push the lever upward and open the cassette lid. Remove the cassette tape.

Note: Follow 10.18 Disassembly of cassette lid **(Step1)** to **(Step 3)**. Remove the cassette tape.

11 Service Fixture and Tools

Service Tools	
Extension FFC	
(A) Deck P.C.B. - Main P.C.B.	REEX0485 (14 Pins)

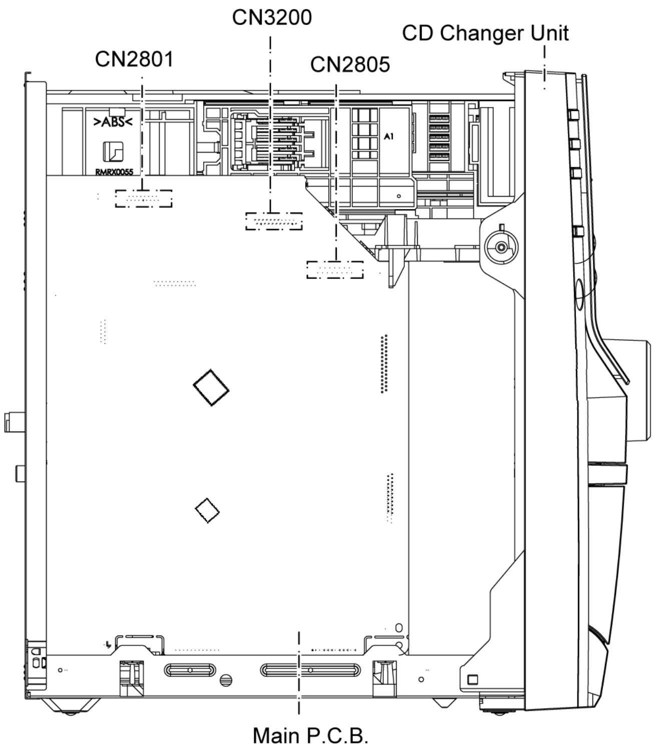
12 Service Positions

Note: For description of the disassembly procedures, see the Section 10.

12.1. Checking and Repairing of Main P.C.B.

1. Remove Top cabinet

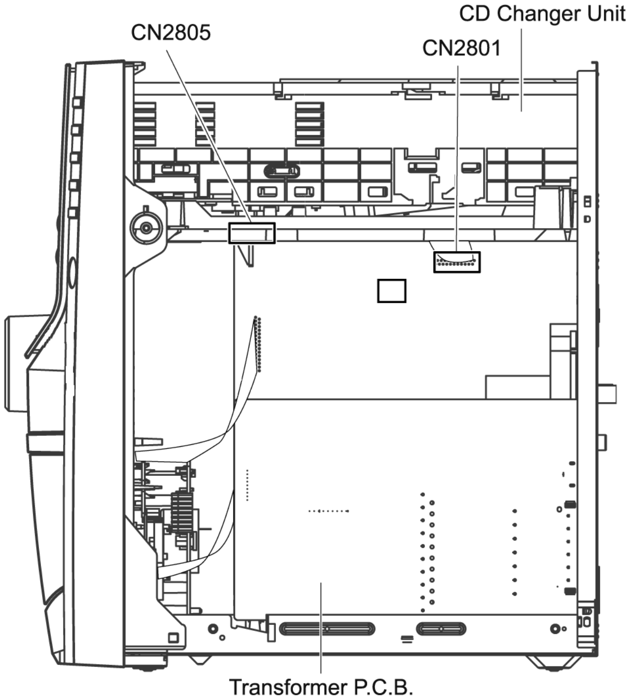
- Remove 3 screws on L/R side.
- Remove 5 screws on rear panel.
- Remove top cabinet.



12.2. Checking and Repairing of Transformer P.C.B.

1. Remove Top cabinet

- Remove 3 screws on L/R side.
- Remove 5 screws on rear panel.
- Remove top cabinet.



12.3. Checking and Repairing of Panel, Deck & Deck Mechanism P.C.B.

1. Remove Top cabinet

- Remove 3 screws on L/R side.
- Remove 5 screws on rear panel.
- Remove top cabinet.

2. Disassemble CD unit

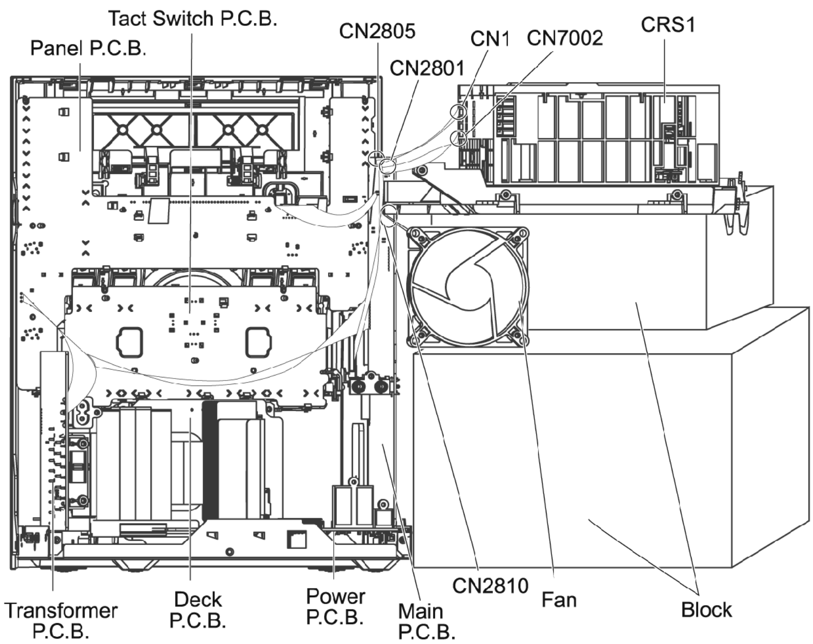
- Remove 1 screw at rear panel.
- Release 2 claws at (L) & (R).

3. Remove Rear Panel

- Remove 8 screws at rear panel.
- Detach cable at CN2810 on Main P.C.B..
- Remove rear panel.

4. Connect CRS1 & Fan

Connect 2P cable (fan) to CN2810 on Main P.C.B..
Connect FFC cable between connector CN7002 to connector CN2801 on Main P.C.B..
Connect FFC cable between connector CN1 to connector CN2805 on Main P.C.B..



12.4. Checking and Repairing of Power P.C.B.

1. Remove Top cabinet

- Remove 3 screws on L/R side.
- Remove 5 screws on rear panel.
- Remove top cabinet.

2. Remove Rear Panel

- Remove 8 screws.
- Detach cable at connector CN2810 (fan) on Main P.C.B..

3.Disassemble CD changer unit

- Remove 1 screw at rear panel.
- Release 2 claws at (L) & (R).

4.Disassemble Main P.C.B.

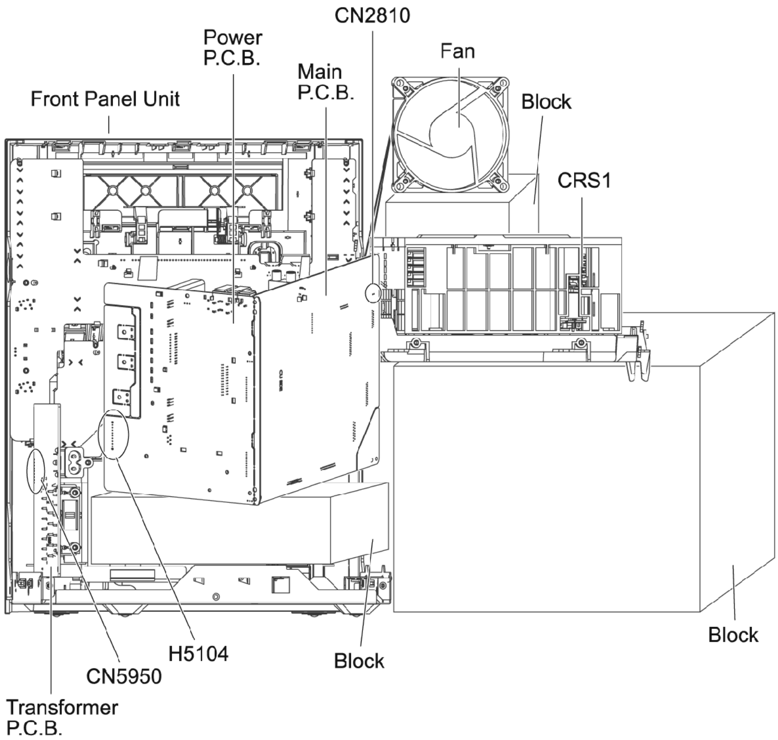
- Detach FFC cables at connectors (CN2809 & CN2808).

5.Disassemble Power P.C.B.

- Remove 5 screws.
- Detach cable at connector CN5950.

6. Connect Panel P.C.B., CRS1, Transformer P.C.B. & Fan

Connect 2P cable (fan) to CN2810 on Main P.C.B..
Connect FFC cable between connector CN7002 to connector CN2801 on Main P.C.B..
Connect FFC cable between connector CN1 to connector CN2805 on Main P.C.B..
Connect FFC cable between connector H5104 to connector CN5950 on Transformer P.C.B..



13 Procedure for Checking Operation of Individual Parts of Deck Mechanism Unit

13.1. Operation Check with Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.) (Fig. 5)
3. Insert a cassette tape to the unit.
4. Supply DC9V to the plunger, and turn the power ON and OFF. (→ Power +PL, -PL) (Fig. 5)
   a. FWD PLAY: Supply the plunger power in a flash. (ON: approx. 5msec)
   b. FWD FF: Supply the plunger power in a flash at PLAY mode. (ON: approx. 5msec)
   c. STOP: Supply the plunger power in a flash at FWD FF mode. (ON: approx. 5msec)
   d. REV PLAY: Supply the plunger power in a normal timing at STOP mode. (ON: approx. 200msec)
   e. REV REW: Supply the plunger power in a flash at REV PLAY mode. (ON: approx. 50msec)
   f. STOP: Supply the plunger power in a flash at FF mode. (ON: approx. 50msec)
   Repeat the operation (→ FWD PLAY)
   (Note) Other operation may start if a timing of supplying the plunger power is missed.

13.1.1. Connection Status between Mechanism and Power Supply (Motor, Plunger)

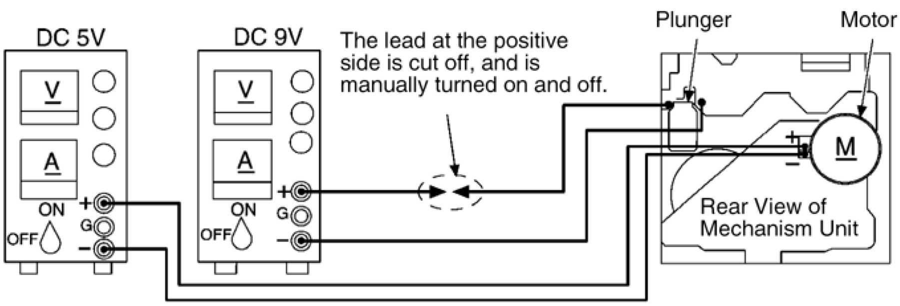


Fig. 5

13.1.2. Operative Parts of Deck Mechanism Unit (EJECT lever fitted with rubber band, Plunger/Rib operation)

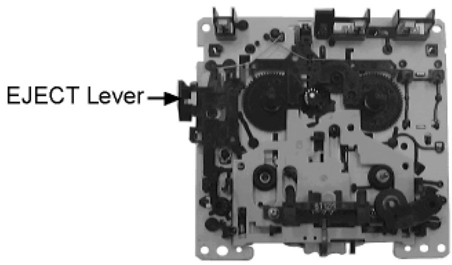
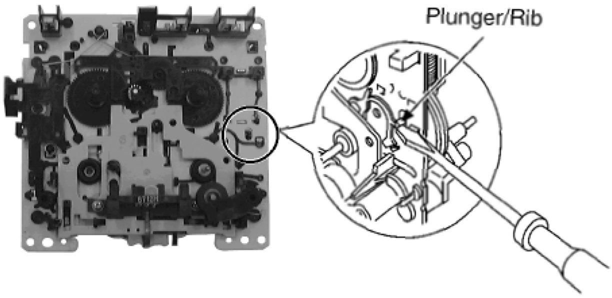


Fig. 6

13.2. Operation Check without Cassette Tape

1. Pull up the EJECT lever using a rubber band. (Fig. 6)
2. Supply DC5V to MOTOR. (→ MOTOR rotates.)
3. Lift up the mechanism unit's plunger/rib with the tip of a negative screwdriver, and operate the unit in the same timing as supplying the power. (Fig. 7)


Plunger/Rib

14 Measurement And Adjustments

14.1. Cassette Deck Section

14.1.1. Requirements

- Test tape (QZZCFM) (QZZCWAT)
- Normal blank cassette tape (QZZCRA)
- Digital frequency counter
- Oscilloscope
- Electrical voltmeter
- Headphone jack output jig (Fig 8)

14.1.2. Setting of Unit

- VOLUME: MAX

14.1.3. Preparations

1. Apply under [10. Assembling and disassembling].
2. Remove 4 screws from the mechanism unit to disassemble. under [10. 13 Disassembly of Deck Mechanism Unit].
3. Connect the headphone jack output jig (Fig 8) to headphone jack.

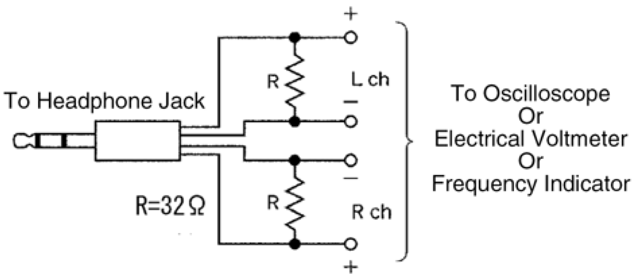


Fig. 8

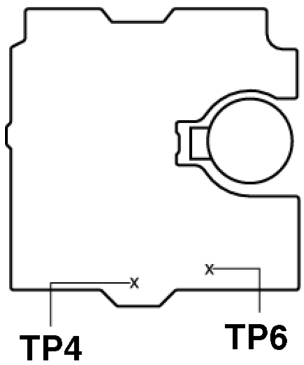


Fig. 9

14.1.4. Tape Speed Adjustment

- Normal speed adjustment (only during forward playback)
  (Product reference value: 3,000±90Hz)

1. Connect a frequency indicator. (Fig 10)
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust the motor screw so that the following output level is produced. (Fig 11)
   Adjustment Range: 3,000 ± 90Hz (a constant speed)

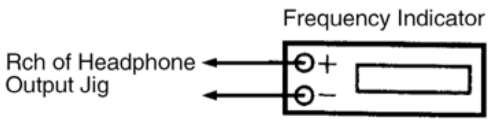


Fig. 10

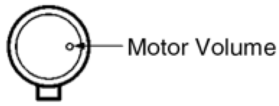


Fig. 11

14.1.5. Bias Voltage Check

1. Connect an electrical voltmeter. (Fig 12) (Fig 9 for location of test points)
2. Set the function to “TAPE” position.
3. Insert a normal blank cassette tape (QZZCRA).
4. While pressing and holding down [REC(● / ⏸)] button, press [TAPE(▶)] button to pause the recording mode. (Repeat pressing the buttons till the recording pause mode is activated.)
5. Check that the output level is within the standard range.
   Standard Range: 16 ± 3mV

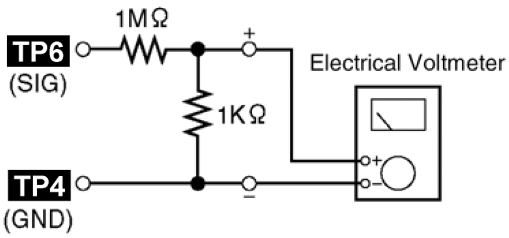


Fig. 12

14.1.6. Bias Frequency Check

1. Connect a digital frequency counter (Fig 13).
2. Set the function to “TAPE” position.
3. Insert a normal blank cassette tape (QZZCRA) and press “REC” mode on main unit.
4. Check that the output frequency is within the standard range.

Standard Value: 98 ±8 kHz

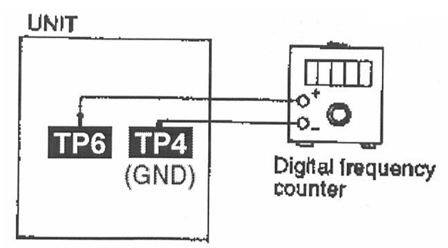


Fig. 13

15 Voltage and Waveform Chart

Note:

Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

15.1. CD Servo P.C.B.

Ref No.	IC7001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.2
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	1.6	0	1.6	1.6	1.8	0	3.2	1.5	3.2	3.2	0	1.6	1.6	0	0	1.9	1.9	0	1.7	1.7
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0.2	2.4	1.7	1.9	1	0	3.2	1.2	0	1.2	1.6	1.6	0.9	1.4	1.5	1.5	0	3.2	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	3.2	0	0	0	0	0	3	3	3	2.9	0	3.2	0	1.6	0	1.6	3.2	0	3.2	1.6
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	1.6	1.6	0	0	0	0	0	0	0	0	0	0	3.2	0	0	0	0	0	0	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.6	0	1.6	0	0	0	0	0	0	0	1.7	3.2	3.2	3.2	2.8	3.8	3.2	3.2	0	7.1
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7002																			
MODE	21	22	23	24	25	26	27	28	29	30										
CD PLAY	0	0	0	0	7.1	1.6	1.6	1.6	0	0										
STANDBY	0	0	0	0	0	0	0	0	0	0										
Ref No.	Q7601																			
MODE	E	C	B																	
CD PLAY	3.1	2	2.4																	
STANDBY	0	0.1	0																	

SA-AK250GCP CD SERVO P.C.B.

15.2. Deck P.C.B. & Deck Mechanism P.C.B.

Ref No.	IC1000																			
MODE	1	2	3	4	5															
CD PLAY	6.7	0	0	0	0															
STANDBY	0.1	0	0	0	0															
Ref No.	IC1001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0.1	0.7	5.1	4.4	4.3	3.3	0	0	0.1	6.1	0	9.0	0	0	0	0	3.8	0.2	4.4	5.2
STANDBY	0	0.7	5.2	4.4	0	3.3	0	0	0	6.0	0	9.0	0	0	0	0	3.8	0.2	4.4	5.1
Ref No.	IC1001																			
MODE	21	22																		
CD PLAY	0.7	0																		
STANDBY	0.7	0																		
Ref No.	Q1101				Q1201				Q1302				Q1303				Q1304			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0		0	0	0		0	0	0		0	6.1	0		6.1	0.1	6.1	
STANDBY	0	0	0		0	0	0		0	0	0		0	6.1	0		6.1	0	6.1	
Ref No.	Q1309				Q1310				Q1312				Q1314				Q1315			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	9.0	0.1		0	9.0	0.1		0	0.1	0		9.0	-0.2	9.0		9.0	0	9.0	
STANDBY	0	9.0	0		0	9.0	0		0	0	0		0.0	-	9.0		9.0	0	8.9	
Ref No.	Q1316				Q1317															
MODE	E	C	B		E	C	B													
CD PLAY	0	7.4	-0.3		0	0	0.1													
STANDBY	0	7.4	0		0	0	0													

SA-AK250GCP DECK P.C.B.

Ref No.	IC971			
MODE	1	2	3	4
CD PLAY	0.3	3.3	2.2	3.3
STANDBY	0.3	3.3	2.2	3.3

SA-AK250GCP DECK MECHANISM P.C.B.

15.3. Main P.C.B.

Ref No.	IC2801																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	1.5	0	0	-	1.6	0	3.3	0	0	1.4	0.7	3.3	1.6	0	-	3.3	3.3	3.3	0	2.2
STANDBY	0	-0.2	-	1.1	1.6	0	3.3	0	0	0.5	0.7	3.3	1.6	0	1.6	3.3	3.3	3.3	0	2.2
Ref No.	IC2801																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	0	3.3	0	3.3	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0	3.3	0	3.3	0	0	0	0	0	0	0	0	0	0	0	0	0	3.1	3.2
Ref No.	IC2801																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	0	1.6	0	0	3.3	3.3	0	0	0	0	0	0	0	0.2	0	0.2	0	0	0
STANDBY	0	0	0.4	0	0	3.2	3.3	0	0	0	0	0	0	3.3	0.1	0	0.2	0	0	0
Ref No.	IC2801																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	3.3	3.3	0	0	0	0	0	0	2.3	0.3	2.9	3.3	0	2.5	3.3	2.6	3.3	3.3	0
STANDBY	0	3.3	3.3	0	0	0	0	0	0	2.4	0.2	3.0	3.3	0	0.1	-	3.3	3.3	3.3	0
Ref No.	IC2801																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	3.3	0.2	3.3	0	0	3.3	0	0	1.3	2.3	0	3.3	2.8	2.8	3.3	0	3.3	3.3	3.3	3.3
STANDBY	3.3	0.2	3.3	0	0	3.3	0	0	1.3	2.3	0	3.3	2.8	-	-	0	3.3	3.3	-	3.3
Ref No.	IC2803																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	0	4.6	4.6	4.6	4.6	4.6	4.6	4.6
STANDBY	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7
Ref No.	IC2803																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	4.6	4.6	4.6	4.6	4.6	4.6	4.6	-	-	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	9.3	3.3	0
STANDBY	4.7	4.7	4.7	4.7	4.7	4.7	4.7	-	-	4.7	4.7	4.7	4.6	4.7	4.7	4.6	4.7	9.3	0	0
Ref No.	IC2803																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56				
CD PLAY	-	-	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	8.2	4.0				
STANDBY	-	4.7	4.9	4.7	4.7	4.6	4.7	4.6	4.7	4.6	4.6	4.6	4.7	4.7	8.2	1.9				
Ref No.	IC2804																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	7.6	7.6	7.5	0	7.5	7.7	7.7	15.3												
STANDBY	7.6	7.6	7.5	0	7.5	7.7	7.6	15.3												
Ref No.	IC2809																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	0.1	-	1.6	1.6	3.3	0	1.6	1.6	0	0	0	3.3	1.6	1.7	0	1.6				
STANDBY	0.1	-	1/6	1/6	3.3	0	1.6	1.6	0	0	0	3.3	-	1.7	0	3.3				
Ref No.	IC2871									IC2872				IC4000						
MODE	1	2	3	4	5	6	7	8		1	2	3		1	2	3	4	5		
CD PLAY	-	3.3	0	0	1.6	1.6	0	-		10.6	0	9.0		5.5	0	5.5	-	3.3		
STANDBY	-	3.3	0	0	1.4	1.4	0	-		10.8	0	9.0		5.5	0	5.5	-	3.3		
Ref No.	Q2124				Q2242				Q2311				Q2317				Q2341			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0		0	0	0		0	0	-3.7		0	0	-3.5		0	0	-3.4	
STANDBY	0	0	0		0	0	0		0	0	0.6		0	0	0.6		0	0	0.6	
Ref No.	Q2411				Q2417				Q2441				Q2511				Q2803			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	-3.7		0	0	-3.5		0	0	-3.4		0	-3.9	0		0	3.3	0	
STANDBY	0	0	0.6		0	0	0.6		0	0	0.6		1.6	1.5	0		0	3.3	0	
Ref No.	Q2936				Q2937				Q2942				Q2943				Q2948			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	12.2	0	12.2		0	12.1	0		12.1	0	12.2		0	12.2	0		0	0	0.2	
STANDBY	12.2	0	12.2		0	12.2	0		12.2	0	12.2		0	12.2	0		0	0	0.2	
Ref No.	Q2949				QR3105				QR3106											
MODE	E	C	B		E	C	B		E	C	B						E	C	B	
CD PLAY	0	3.3	0		0	9.9	0		0	9.0	0									
STANDBY	0	3.3	0		0	9.0	0		0	9.0	0									

SA-AK250GCP MAIN P.C.B.

15.4. Panel P.C.B. & Transformer P.C.B.

Ref No.	IC6601																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	1.9	1.4	0.3	2.9	2.3	0	0	0	3.3	-16.4	-22.6	-24.7	-22.6	-18.4	-	-
STANDBY	0	0	0	0	1.9	-	-	3.0	2.5	0	-	0	3.3	-	-24.6	-24.7	-24.7	-20.5	-	-
Ref No.	IC6601																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-	-	-	-24.6	-24.7	-24.7	-	-22.6	-14.3	-25.2	-22.8	-23.0	-22.8	-22.8	-22.8	-22.8	-22.8	-22.8	-22.8	-22.8
STANDBY	-	-	-	-22.4	-	-24.7	-	-24.7	-	-25.2	-	-23.1	-22.8	-22.8	-22.8	-22.8	-22.9	-22.9	-22.9	-22.9
Ref No.	IC6601																			
MODE	41	42	43	44																
CD PLAY	-22.9	-22.9	3.3	0																
STANDBY	-22.9	-23.0	3.3	0																

SA-AK250GCP PANEL P.C.B.

Ref No.	Q5950				Q5951				Q5952				Q5953							
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	6.3	6.8	13.8		025.2	-44.2	-25.7		0	2.2	-0.3		0	0.2	0.8					
STANDBY	6.3	6.8	14.0		-25.3	-45.5	-25.8		0	2.4	-0.2		0	0.2	0.8					

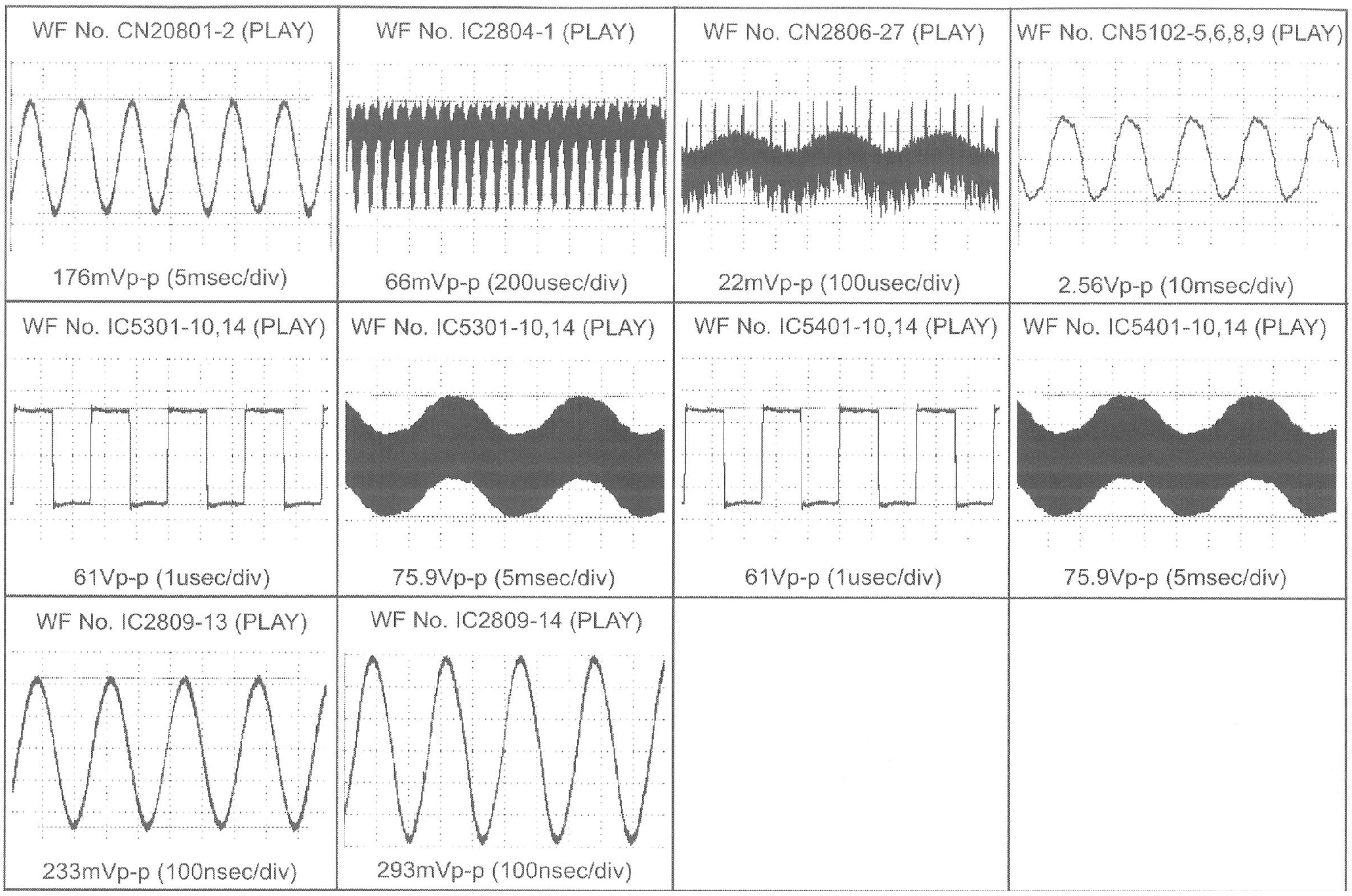
SA-AK250GCP TRANSFORMER P.C.B.

15.5. Power P.C.B.

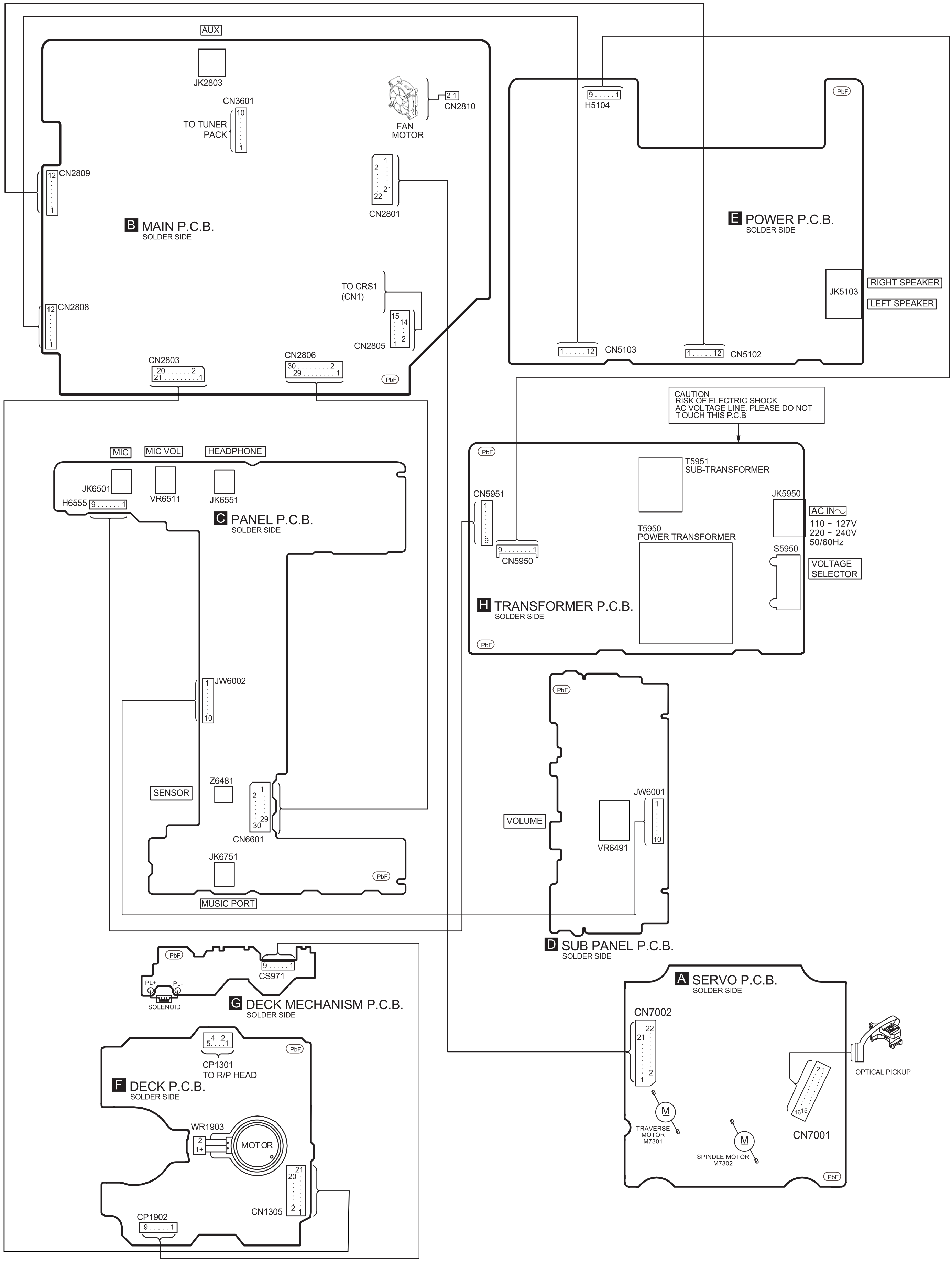
Ref No.	IC5101																			
MODE	1	2	3	4	5															
CD PLAY	3.3	12.2	0	5.6	3.2															
STANDBY	3.3	12.2	0	5.6	3.2															
Ref No.	IC5301																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	2.7	0	0	28.9	0	-30.0	-21.5	29.3	107.1	95.0	-30.2	-18.0	-30.2	93.1	105.1	29.4	-29.4	-29.9	0	29.0
STANDBY	2.7	0	0	29.0	0	-30.0	-21.5	29.3	112.4	100.5	-30.2	-18.0	-30.2	90.0	110.4	29.4	-29.9	-29.9	0	29.0
Ref No.	IC5301																			
MODE	21	22	23																	
CD PLAY	0	0	4.0																	
STANDBY	0	0	2.6																	
Ref No.	Q5101				Q5102				Q5103				Q5104				Q5108			
MODE	S	G	D		S	G	D		E	C	B		E	C	B		E	C	B	
CD PLAY	29.4	33.0	40.9		-41.6	-39.2	-30.2		0	3.3	0		0	3.3	0		-41.9	-38.4	-41.3	
STANDBY	29.3	32.9	40.8		-41.5	-38.0	-30.2		0	3.3	0		0	3.3	0		-41.8	-38.3	-41.0	
Ref No.	Q5109				Q5110				Q5111				Q5112				Q5113			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-4.7	-16.6	-5.3		28.7	32.9	29.4		15.6	28.8	16.2		17.2	12.2	16.6		17.6	16.7	17.3	
STANDBY	-4.7	-16.4	-5.3		28.6	32.9	29.3		15.6	28.8	16.2		17.7	12.2	17.0		17.7	17.1	17.7	
Ref No.	Q5114				Q5153				Q5154				Q5173				QR5230			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	11.5	16.7	12.1		0	4.0	0		3.9	0	3.3		0	4.0	0		3.3	-29.2	3.3	
STANDBY	11.5	16.9	12.0		0	0	0.7		2.6	0	3.2		0	2.6	0		3.3	-29.1	3.3	
Ref No.	QR5231				QR5232				QR5233											
MODE	E	C	B		E	C	B		E	C	B									
CD PLAY	-30.0	-26.7	-29.5		3.3	-29.2	3.3		-30.0	-29.2	-29.5									
STANDBY	-30.0	-26.4	-29.5		3.3	-29.1	3.3		-30.0	-26.5	-29.5									

SA-AK250GCP POWER P.C.B.

15.6. Waveform Chart

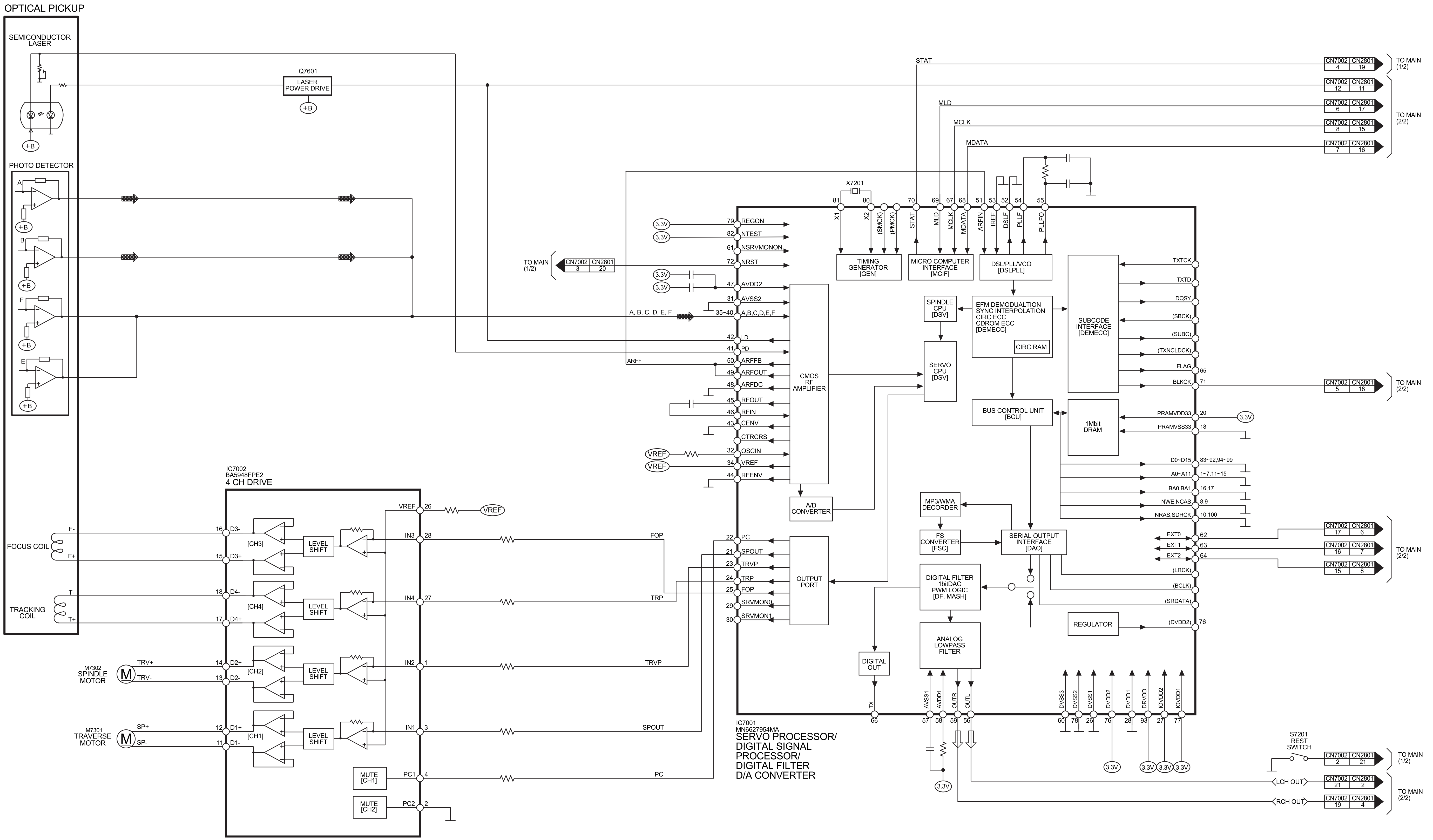


16 Wiring Connection Diagram



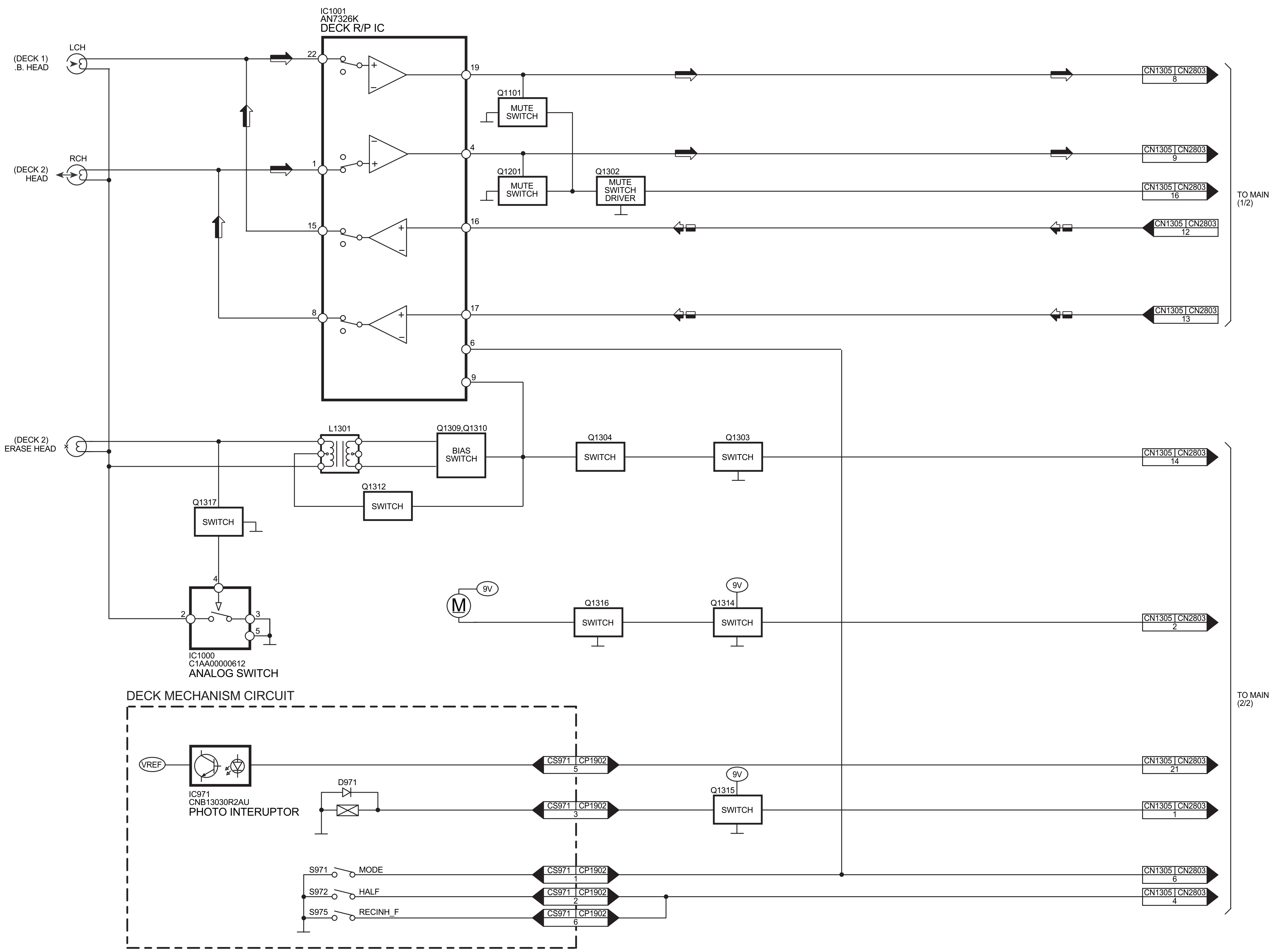
17 Block Diagram

17.1. CD Servo Diagram



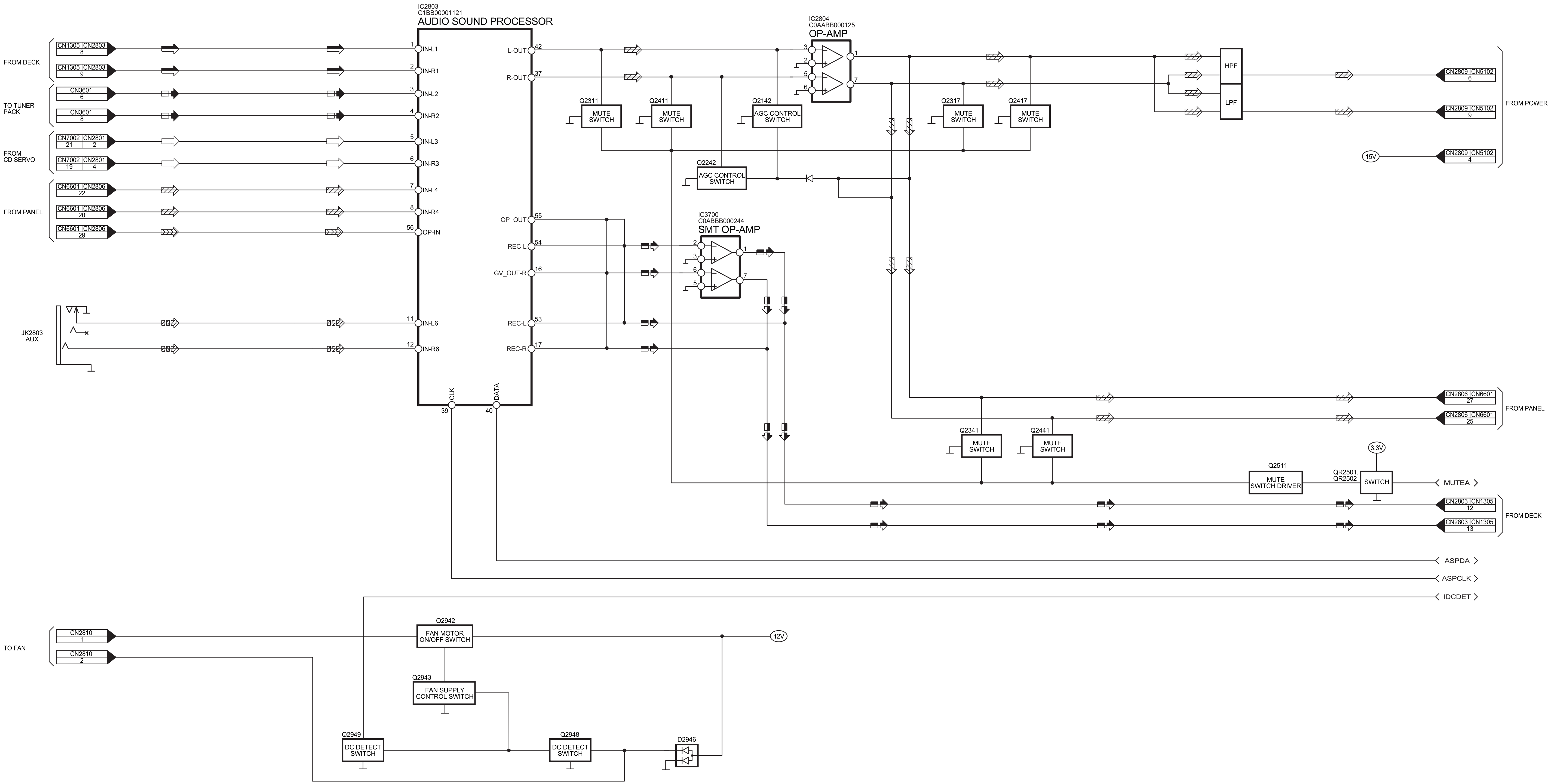
SA-AK250GCP CD SERVO BLOCK DIAGRAM

17.2. Deck/ Deck Mechanism Diagram

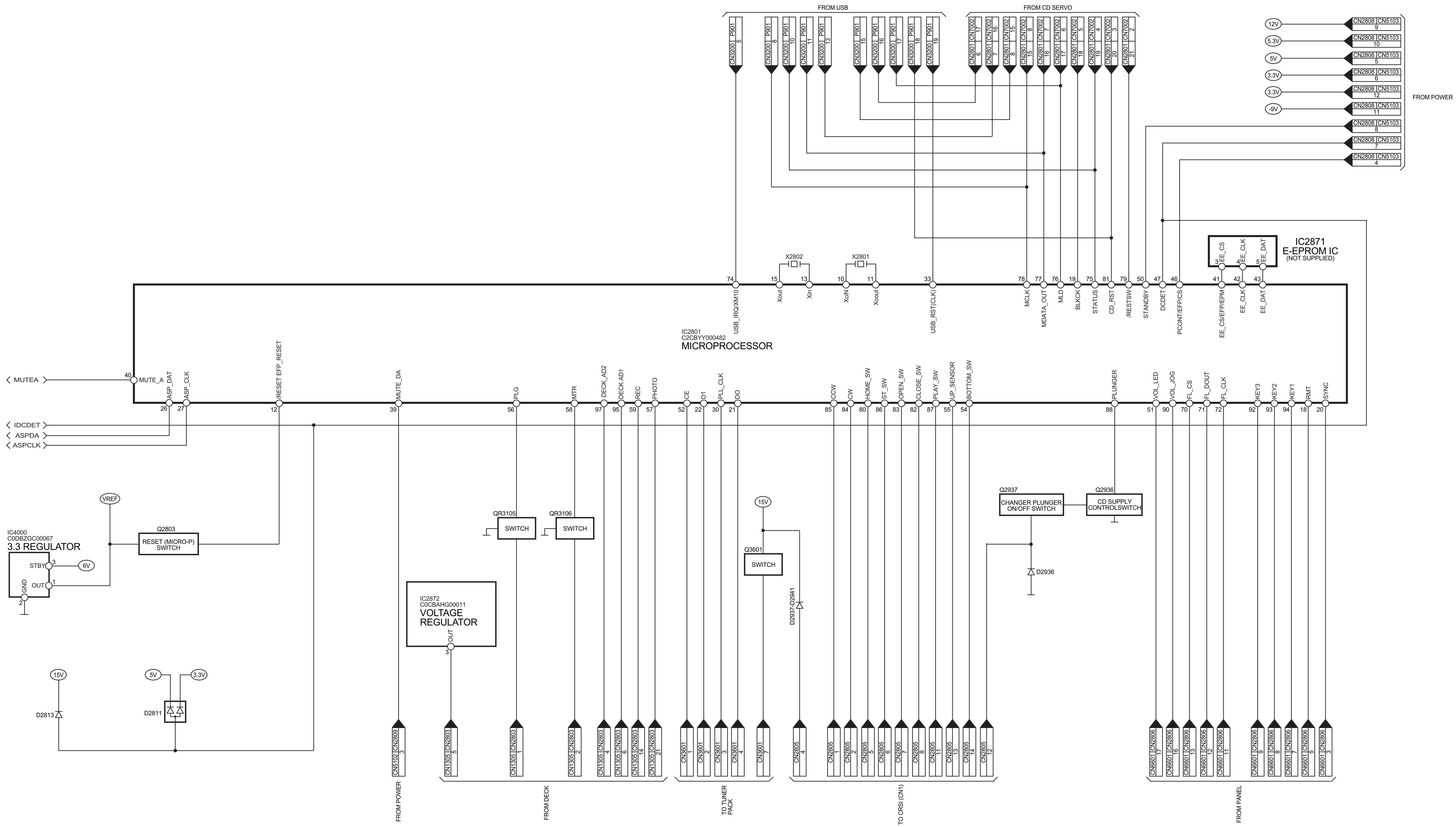


SA-AK250GCP DECK/DECK MECHANISM BLOCK DIAGRAM

17.3. Main Diagram

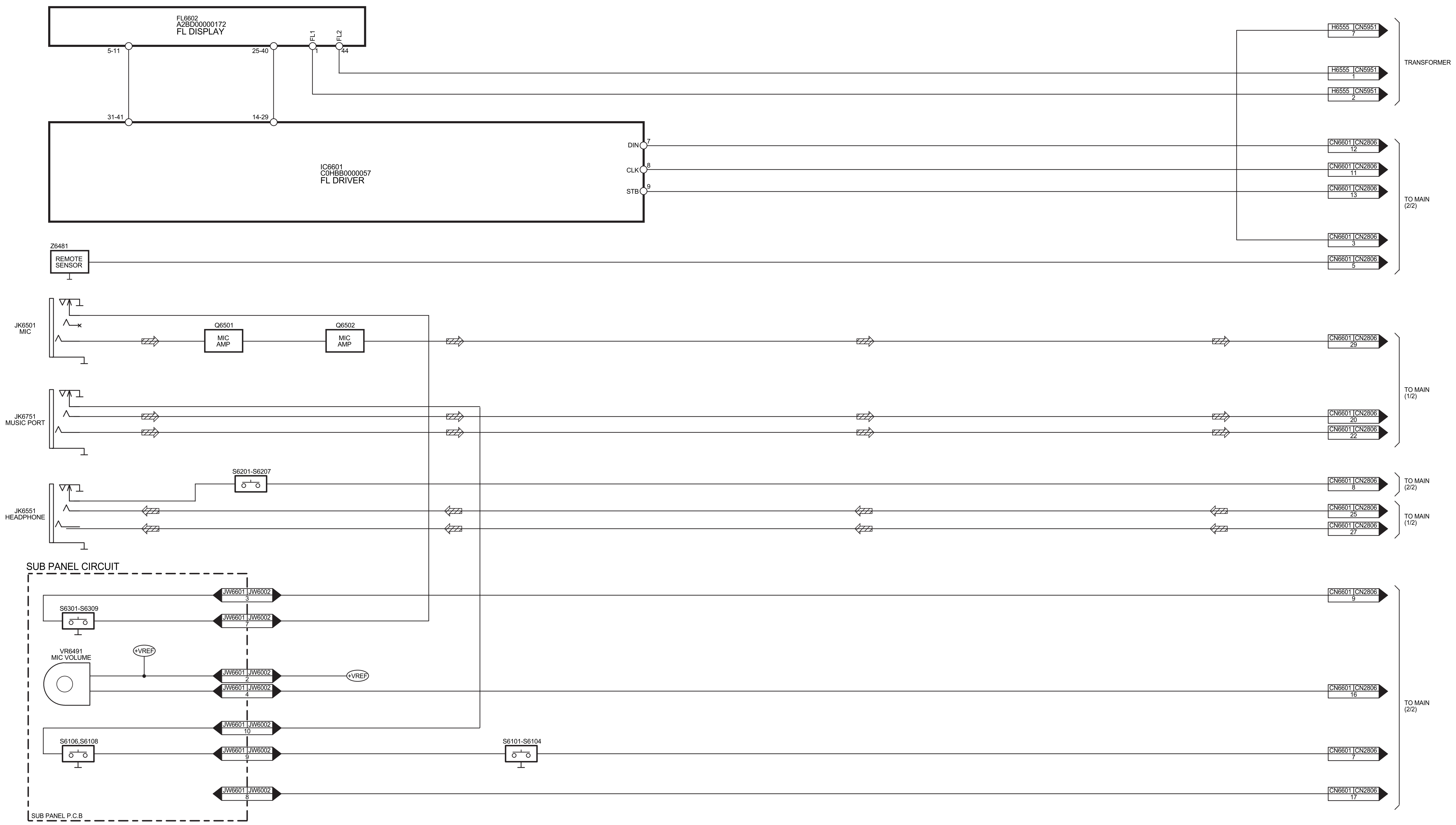


SA-AK250GCP MAIN 1/2 DIAGRAM



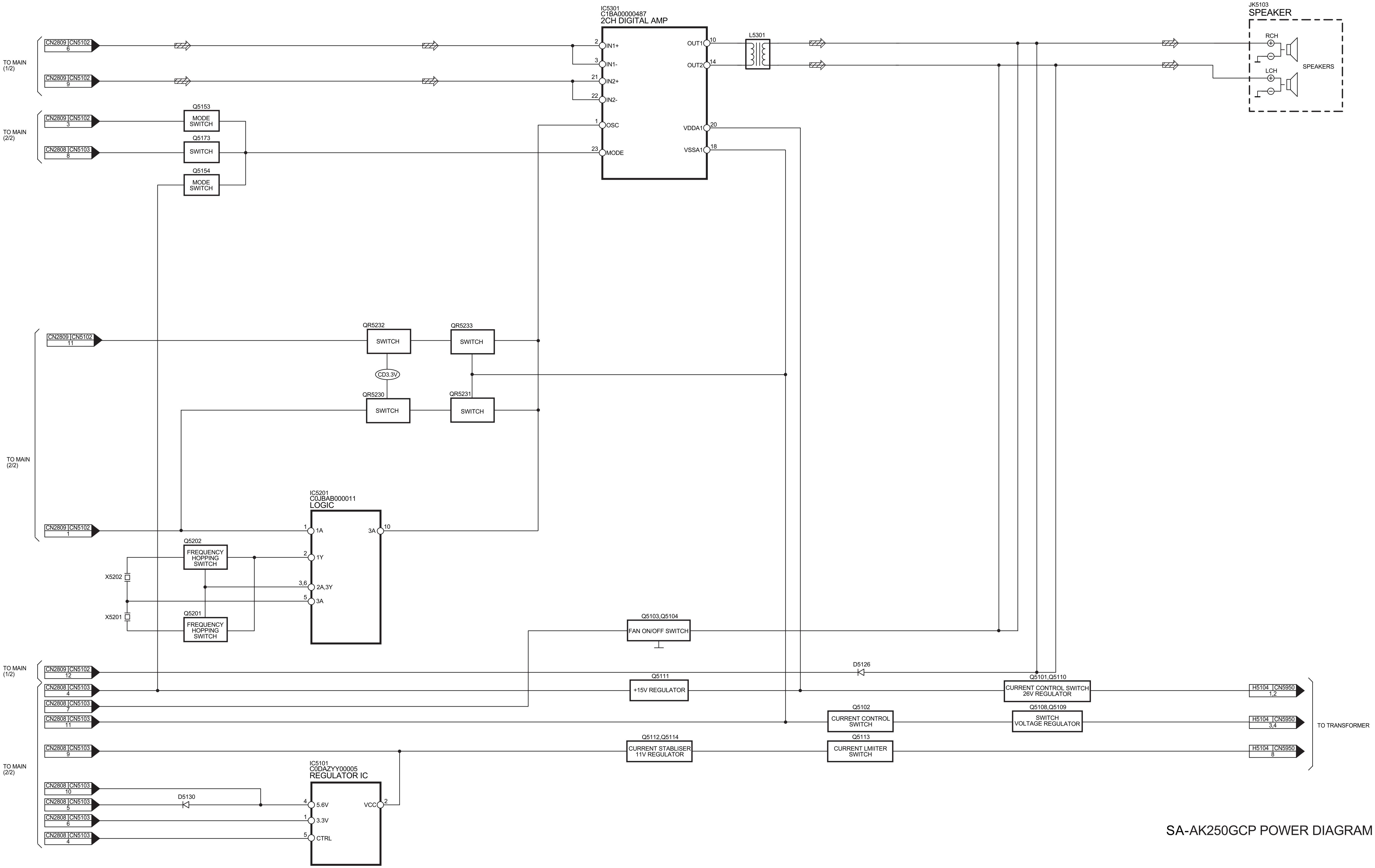
SA-AK250GCP MAIN 2/2 DIAGRAM

17.4. Panel Diagram



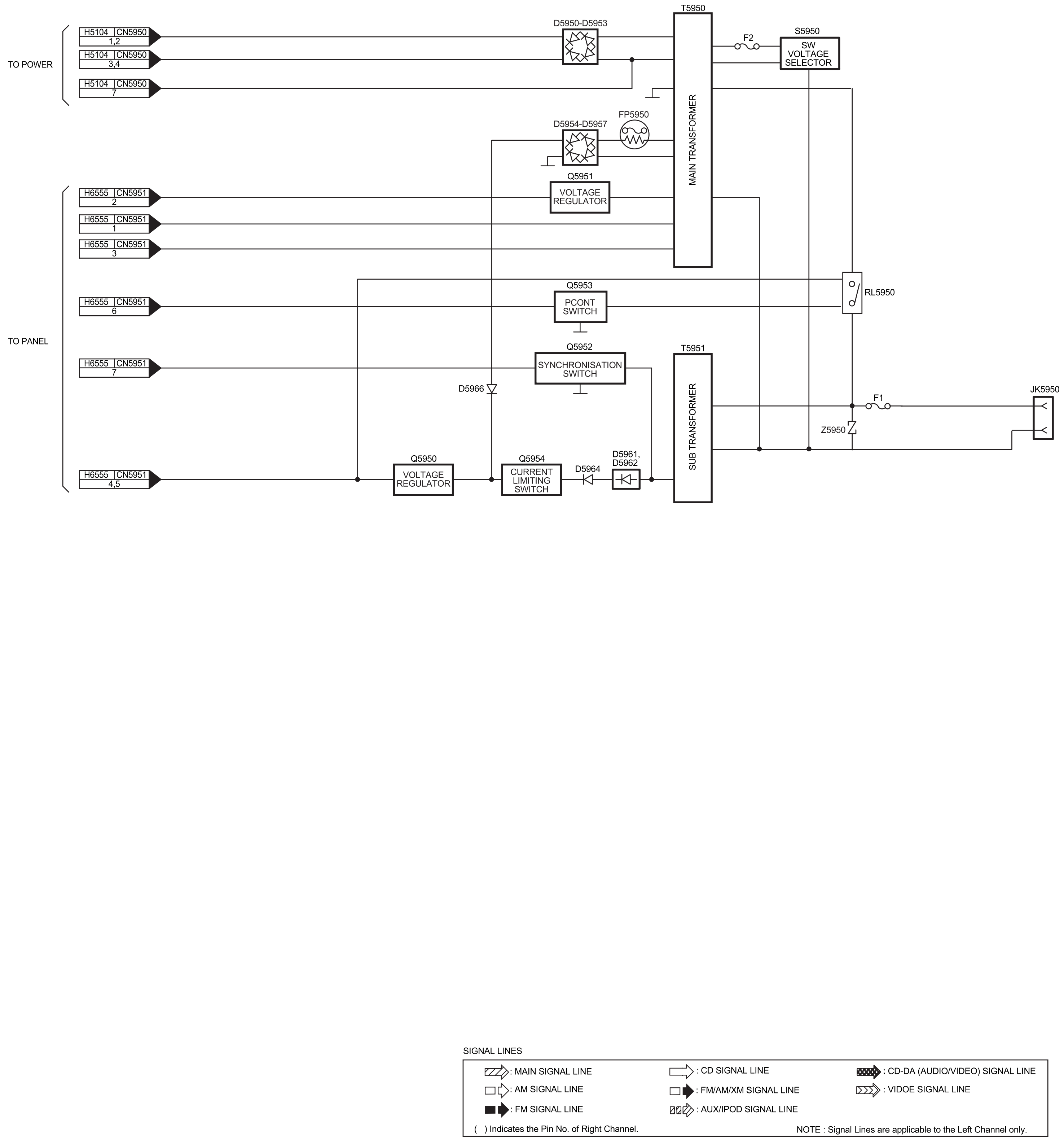
SA-AK250GCP PANEL DIAGRAM

17.5. Power Diagram



SA-AK250GCP POWER DIAGRAM

17.6. Transformer Diagram



SA-AK250GCP TRANSFORMER DIAGRAM

18 Notes Of Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Notes:

S971:	Mode switch.
S972:	Half switch.
S975:	RecInh_F switch.
S5950:	Voltage Selector switch.
S6101:	AC In (⏻/I) switch.
S6102:	Multi Change (▲) switch.
S6103:	Open/ Close (▲) switch.
S6104:	Single Change (▲) switch.
S6106:	Stop/ -Demo (STOP, ■) switch.
S6108:	Hard Bass switch.
S6201:	CD1 (1 ▶) switch.
S6202:	CD2 (2 ▶) switch.
S6203:	CD3 (3 ▶) switch.
S6204:	CD4 (4 ▶) switch.
S6205:	CD5 (5 ▶) switch.
S6206:	/FF/ (**FF/**►►I) switch.
S6207:	/REW/ (**REW/**I◄◄) switch.
S6301:	Open (▲) switch.
S6302:	CD (CD,►/II) switch.
S6303:	Tape (TAPE,►) switch.
S6304:	Tuner/FM/AM switch.
S6305:	Ext In switch.
S6306:	Rec (●) switch.
S6307:	M.EQ+ switch.
S6308:	Manual EQ switch.
S6309:	M.EQ- switch.
S7201:	Rest switch.
VR6491:	VR Volume jog.
VR6511:	VR Mic jog.

· **Importance safety notice :**

Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer´s specified parts shown in the parts list.

· **Resistor**

Unit of resistance is OHM [Ω] (K=1,000,000).

· **Capacitor**

Unit of resistance is μF, unless otherwise noted. F=Farad, pF=Pico-Farad

· **Coil**

Unit of inductance is H, unless otherwise noted.

· **Voltage and Signal lines:**

 : +B Signal line

 : -B Signal line

 : CD DA Signal line

 : CD Signal line

 : Main Signal line

 : FM/AM Signal line

 : Tape Record Signal line

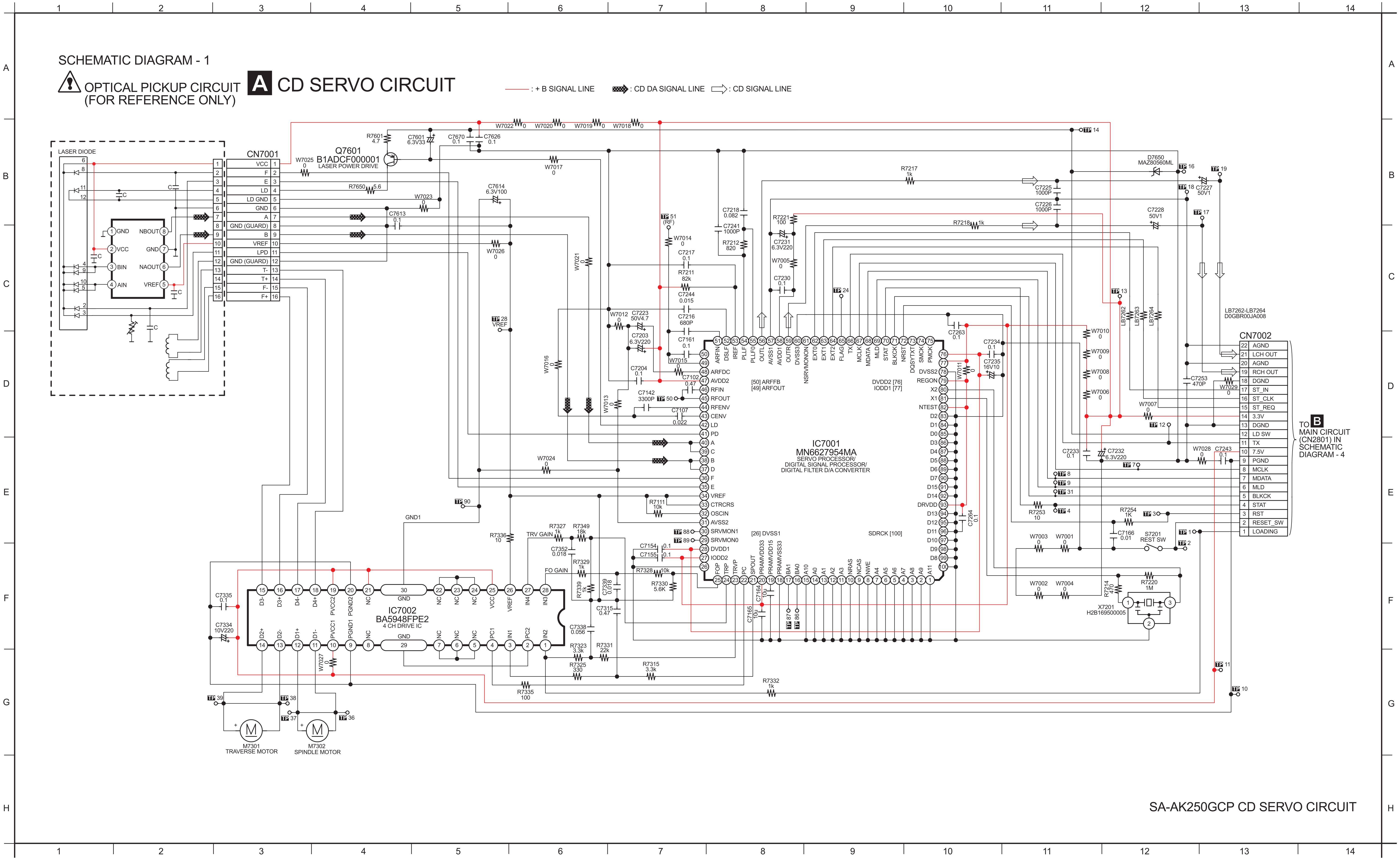
 : Tape Playback Signal line

 : Aux Signal line

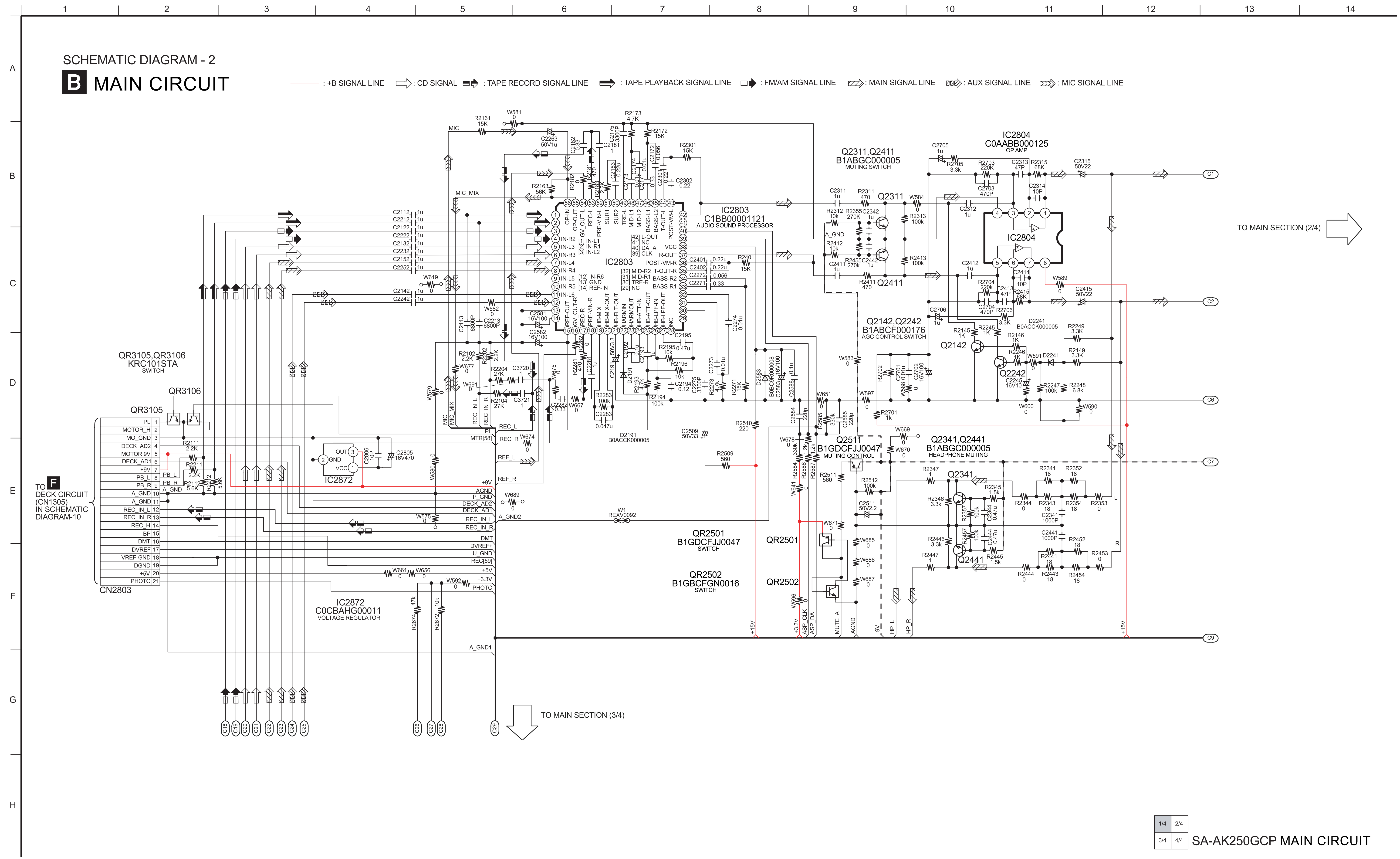
 : MIC Signal line

19 Schematic Diagram

19.1. (A) CD Servo Circuit

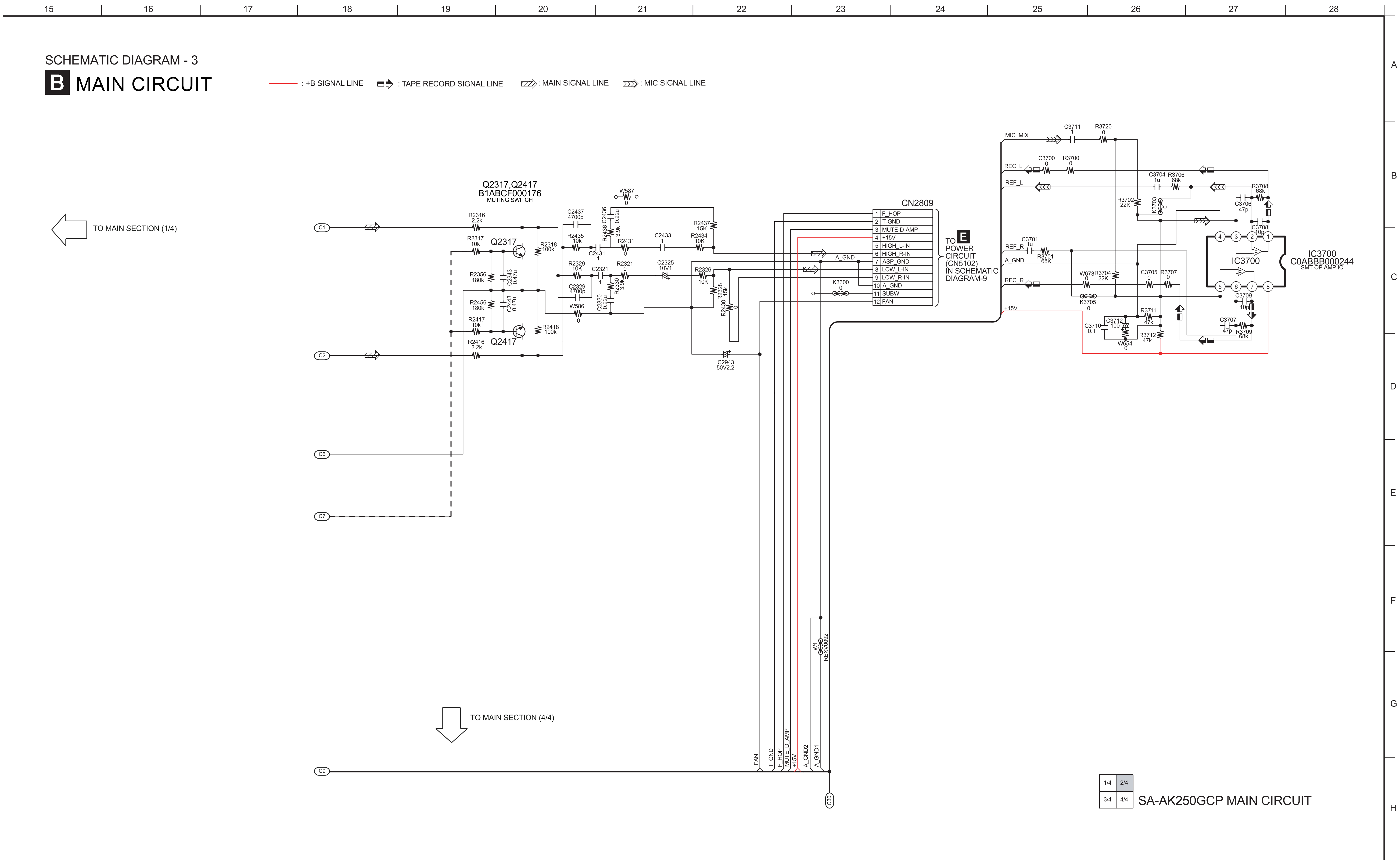


19.2. (B) Main Circuit



SCHEMATIC DIAGRAM - 3

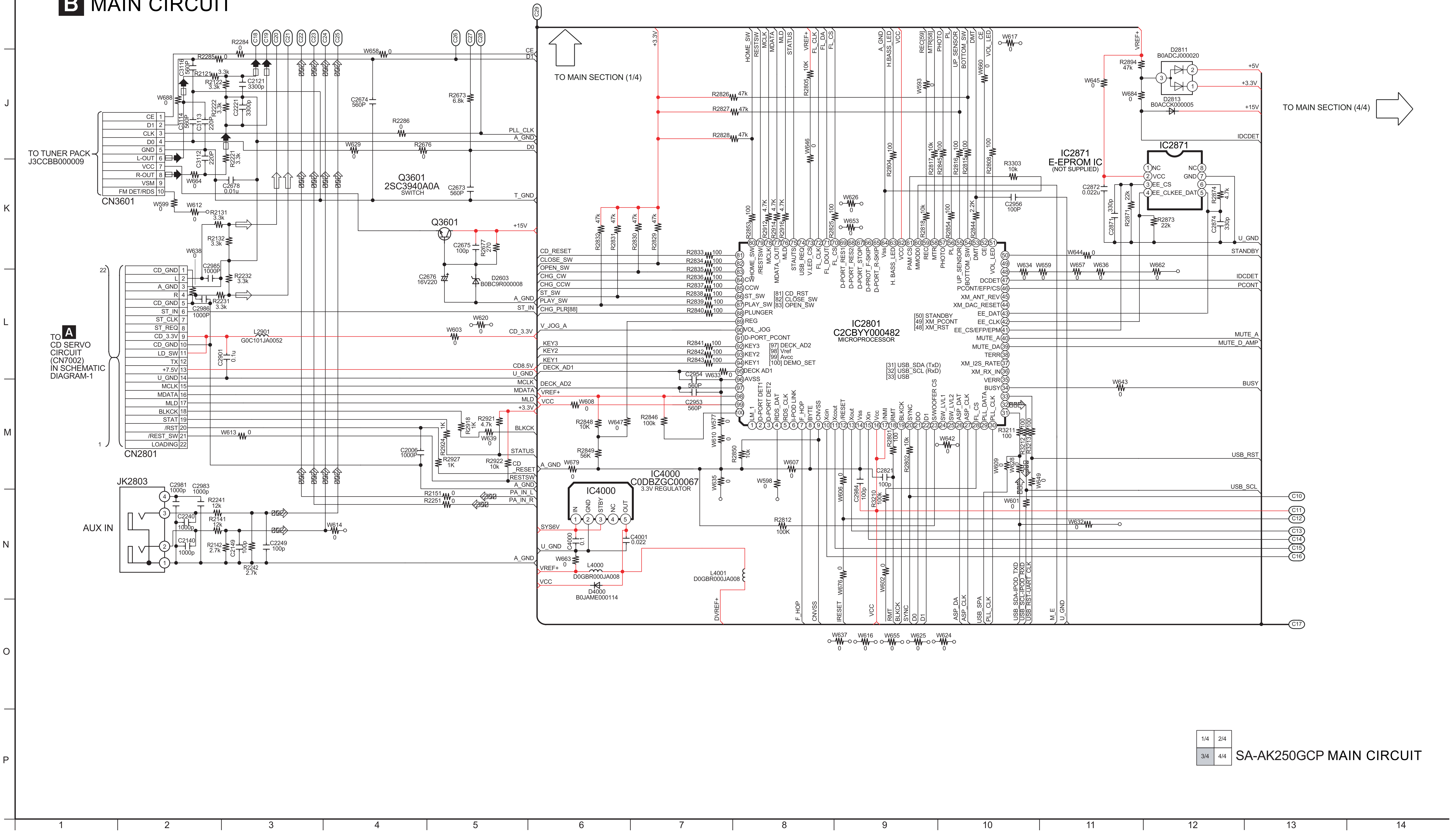
B MAIN CIRCUIT



SCHEMATIC DIAGRAM - 4

B MAIN CIRCUIT

: +B SIGNAL LINE : CD SIGNAL LINE : FM/AM SIGNAL LINE : MAIN SIGNAL LINE : AUX SIGNAL LINE : USB SIGNAL LINE



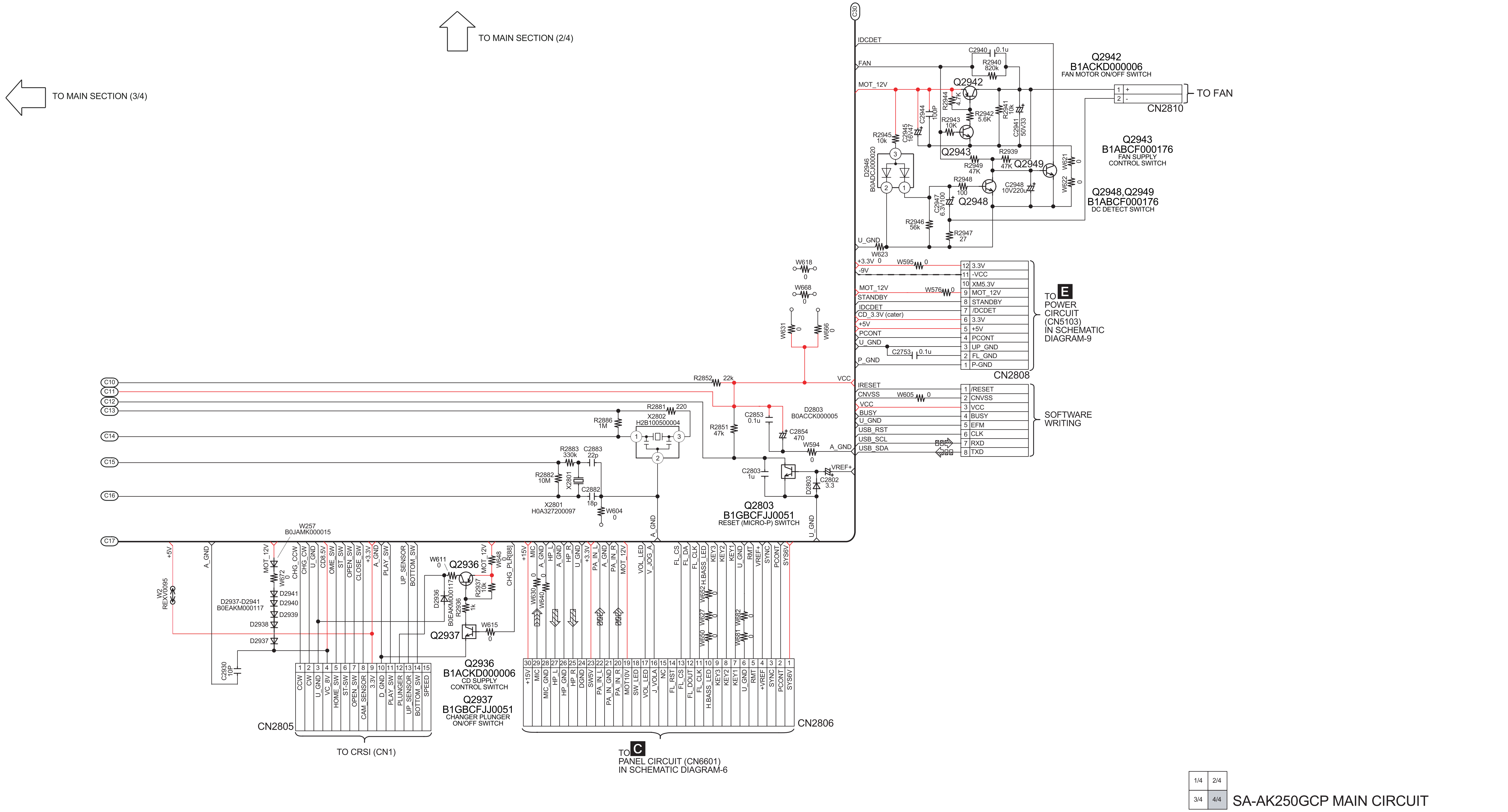
1/4	2/4
3/4	4/4

SA-AK250GCP MAIN CIRCUIT

SCHEMATIC DIAGRAM - 5

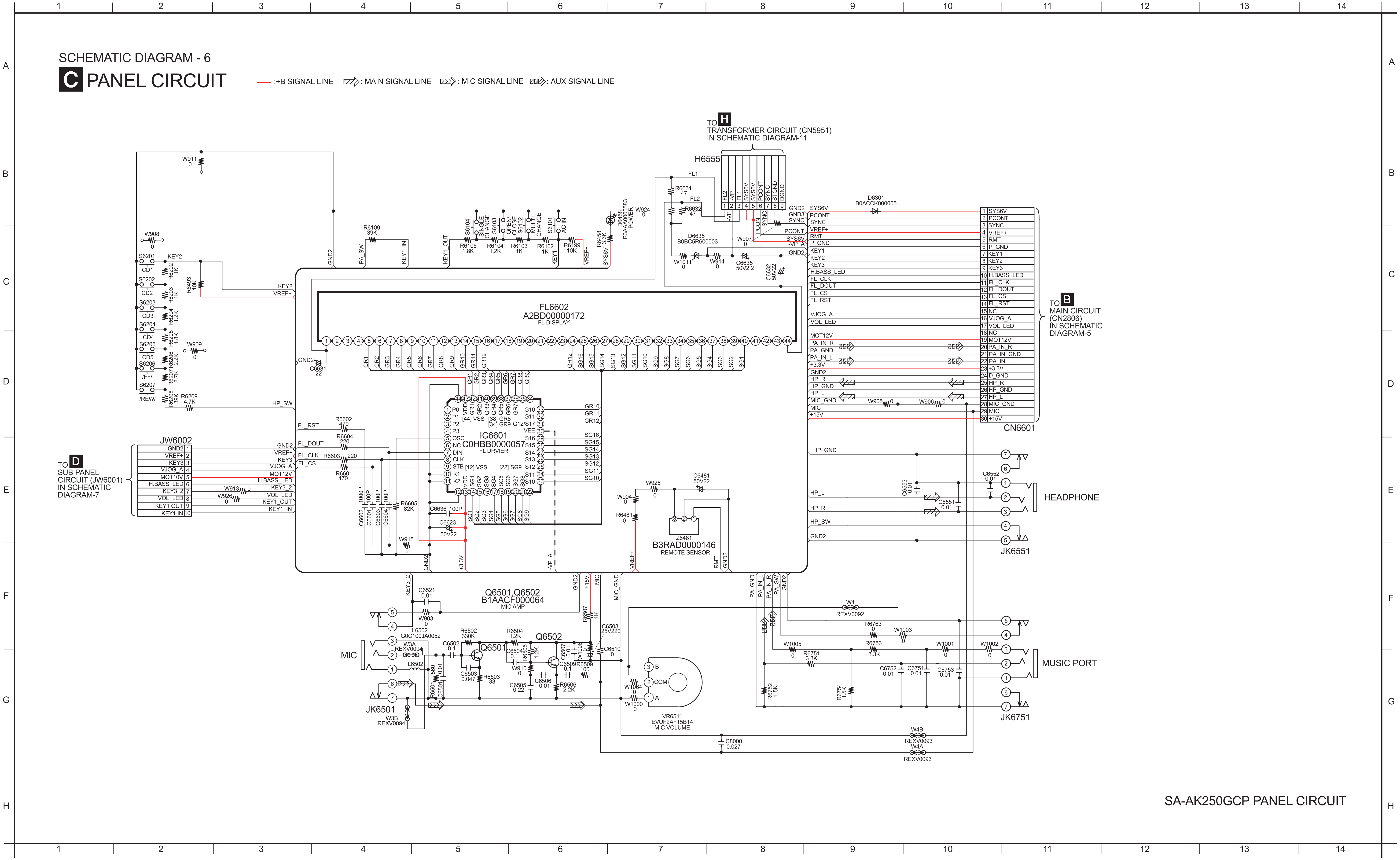
B MAIN CIRCUIT

: +B SIGNAL LINE : MAIN SIGNAL LINE : MIC SIGNAL LINE : AUX SIGNAL LINE : USB SIGNAL LINE



SA-AK250GCP MAIN CIRCUIT

19.3. (C) Panel Circuit

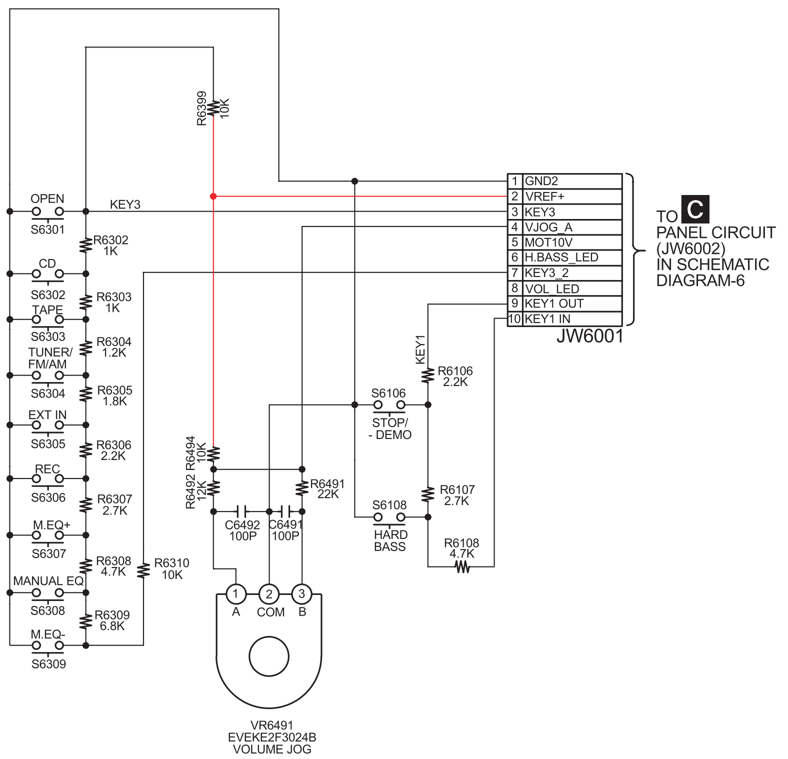


19.4. (D) Sub Panel Circuit & (G) Deck Mechanism Circuit

SCHEMATIC DIAGRAM - 7

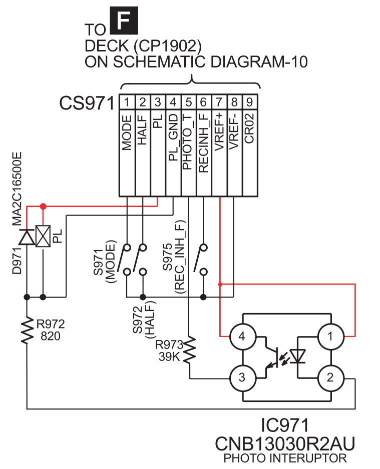
D SUB PANEL CIRCUIT

:+B SIGNAL LINE



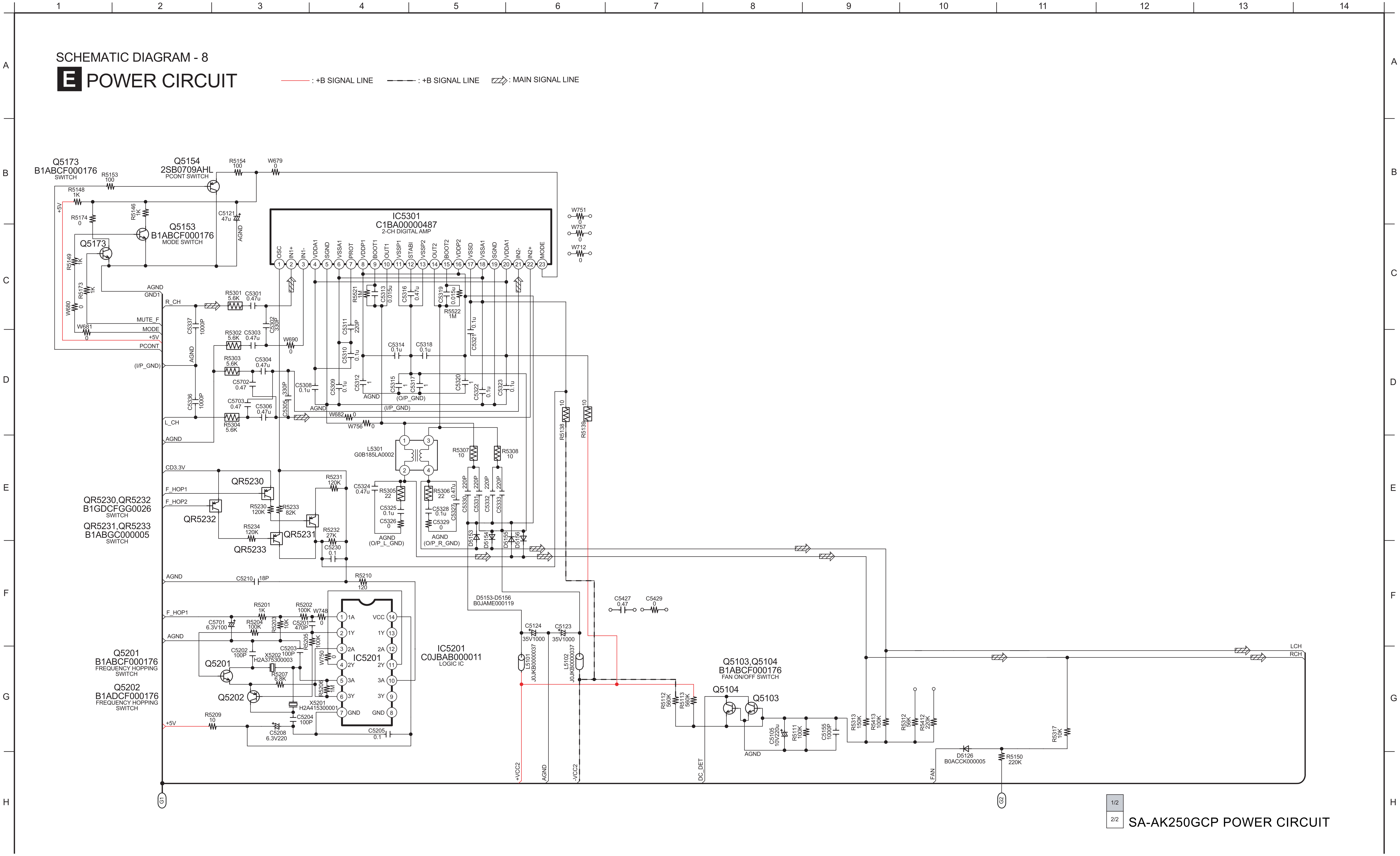
G DECK MECHANISM CIRCUIT

:+B SIGNAL LINE



SA-AK250GCP SUB PANEL/DECK MECHANISM CIRCUIT

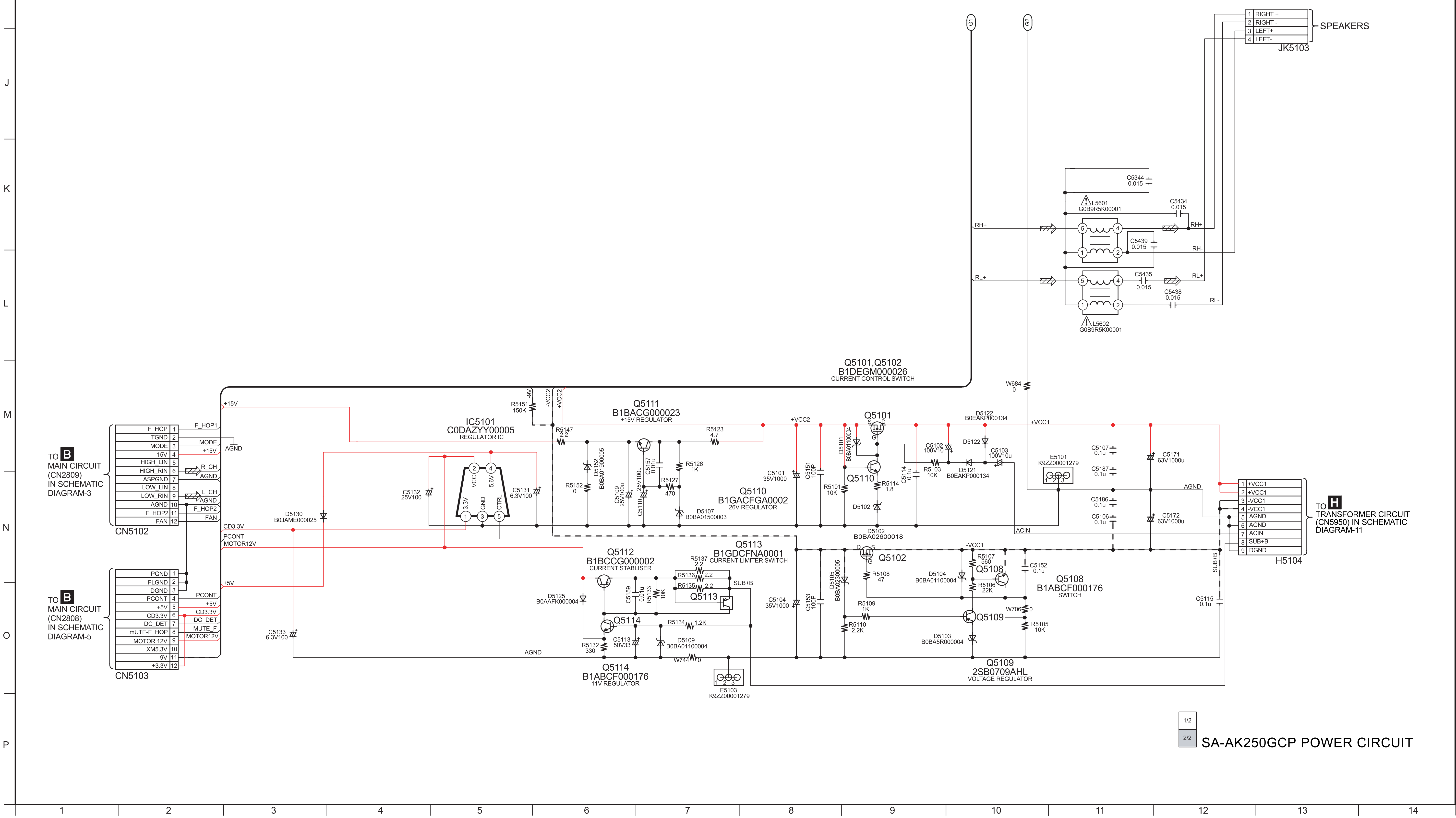
19.5. (E) Power Circuit



SCHEMATIC DIAGRAM - 9

E POWER CIRCUIT

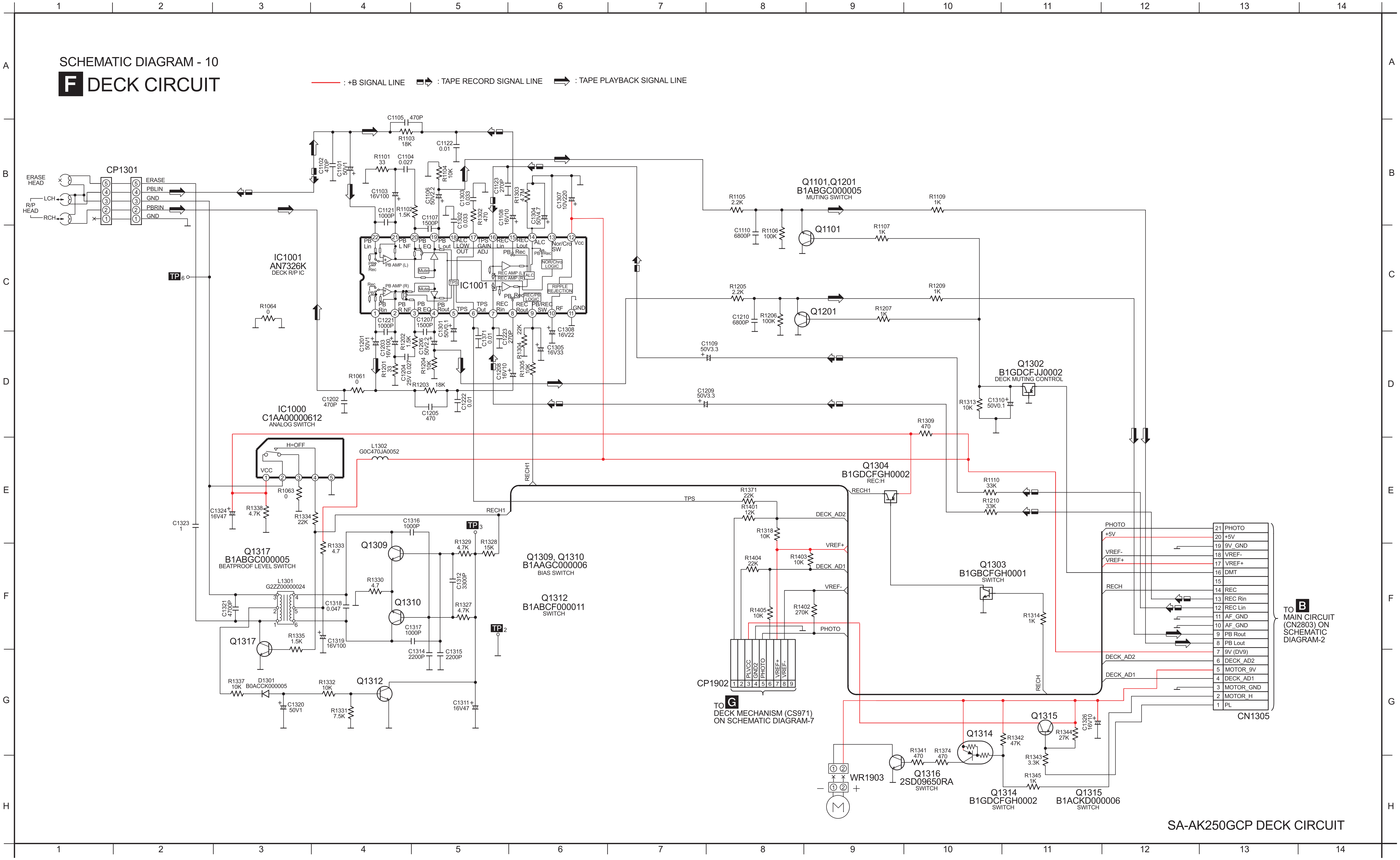
: +B SIGNAL LINE : -B SIGNAL LINE : MAIN SIGNAL LINE



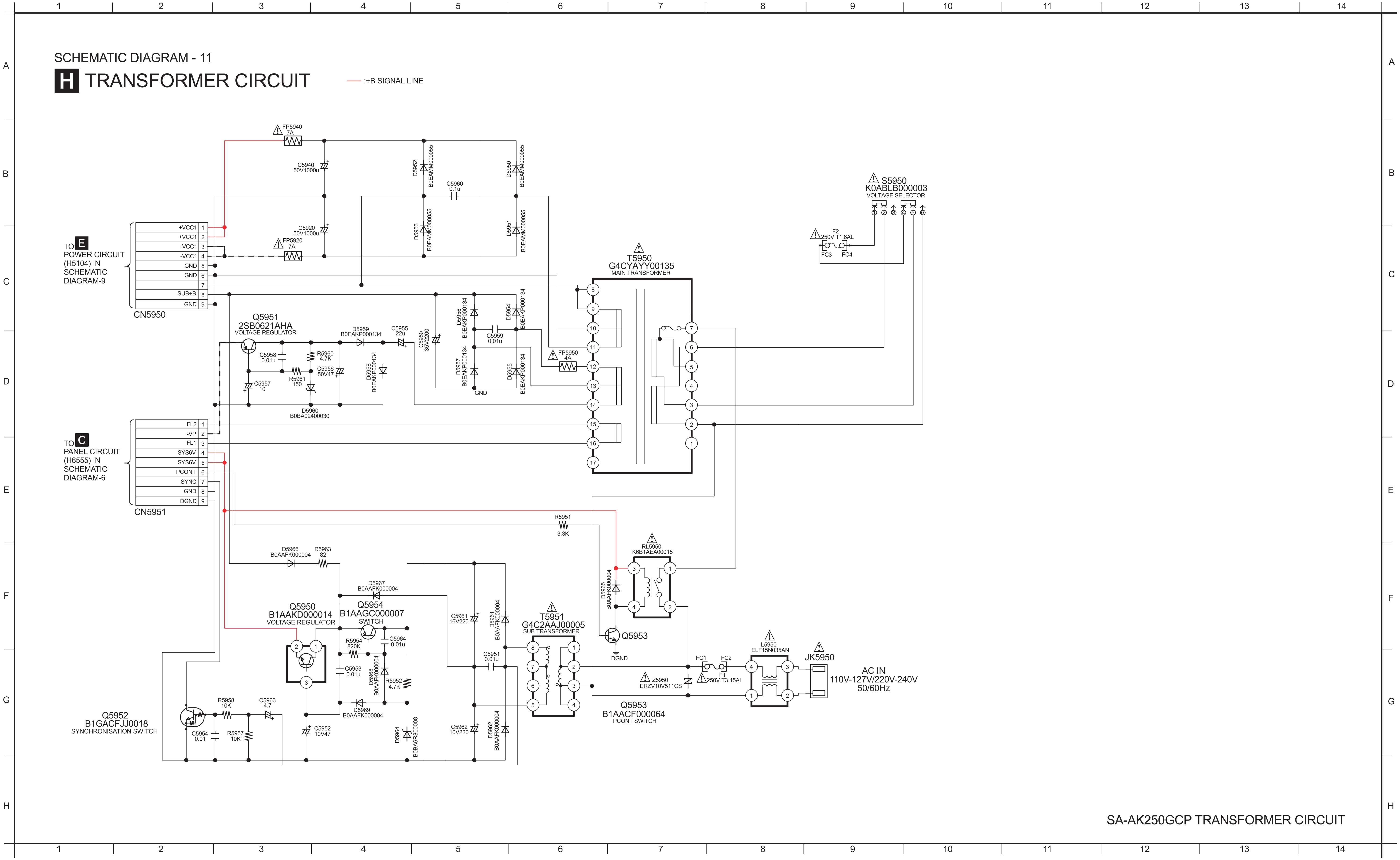
1/2
2/2

SA-AK250GCP POWER CIRCUIT

19.6. (F) Deck Circuit



19.7. (H) Transformer Circuit

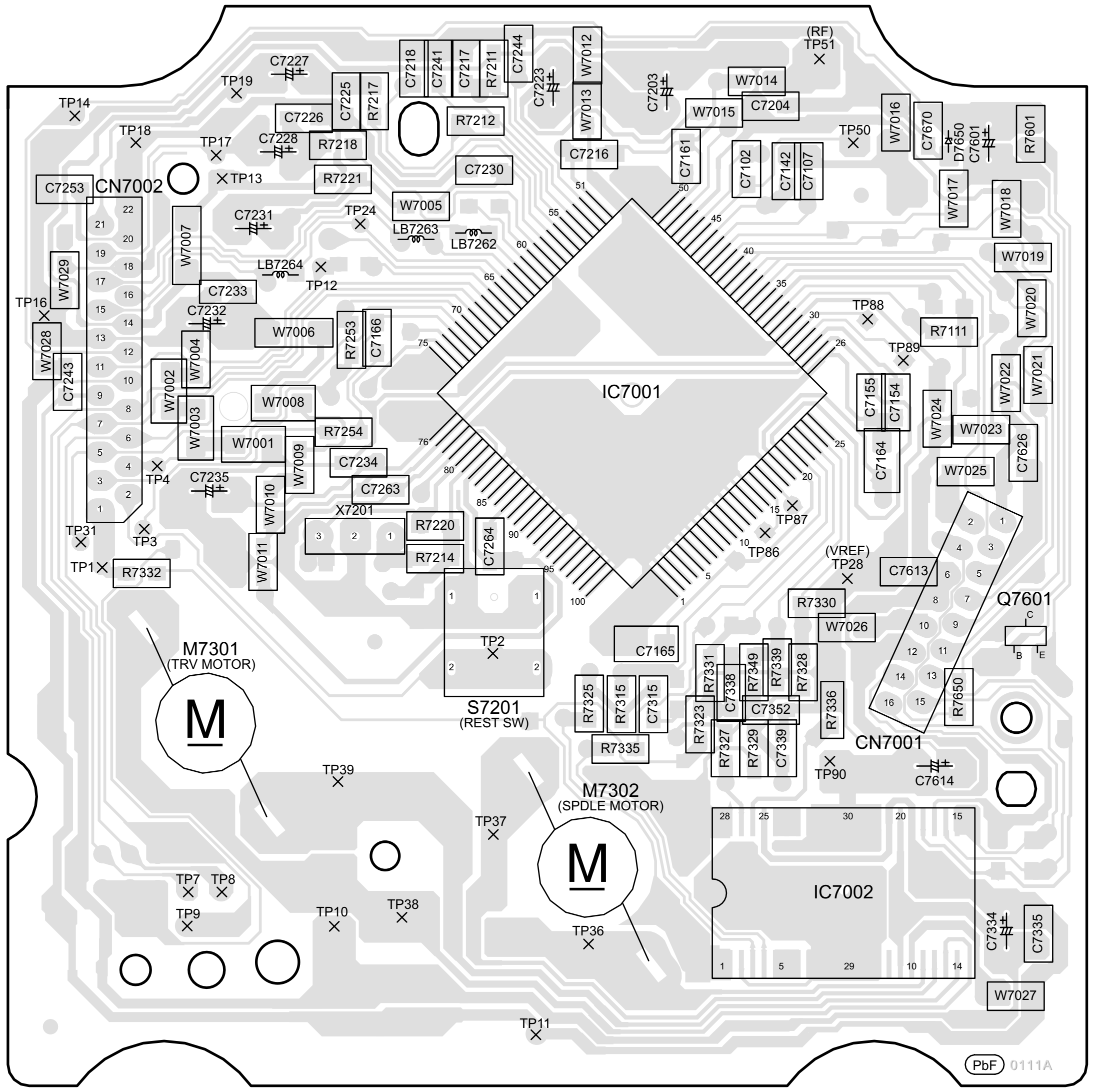


20 Printed Circuit Board

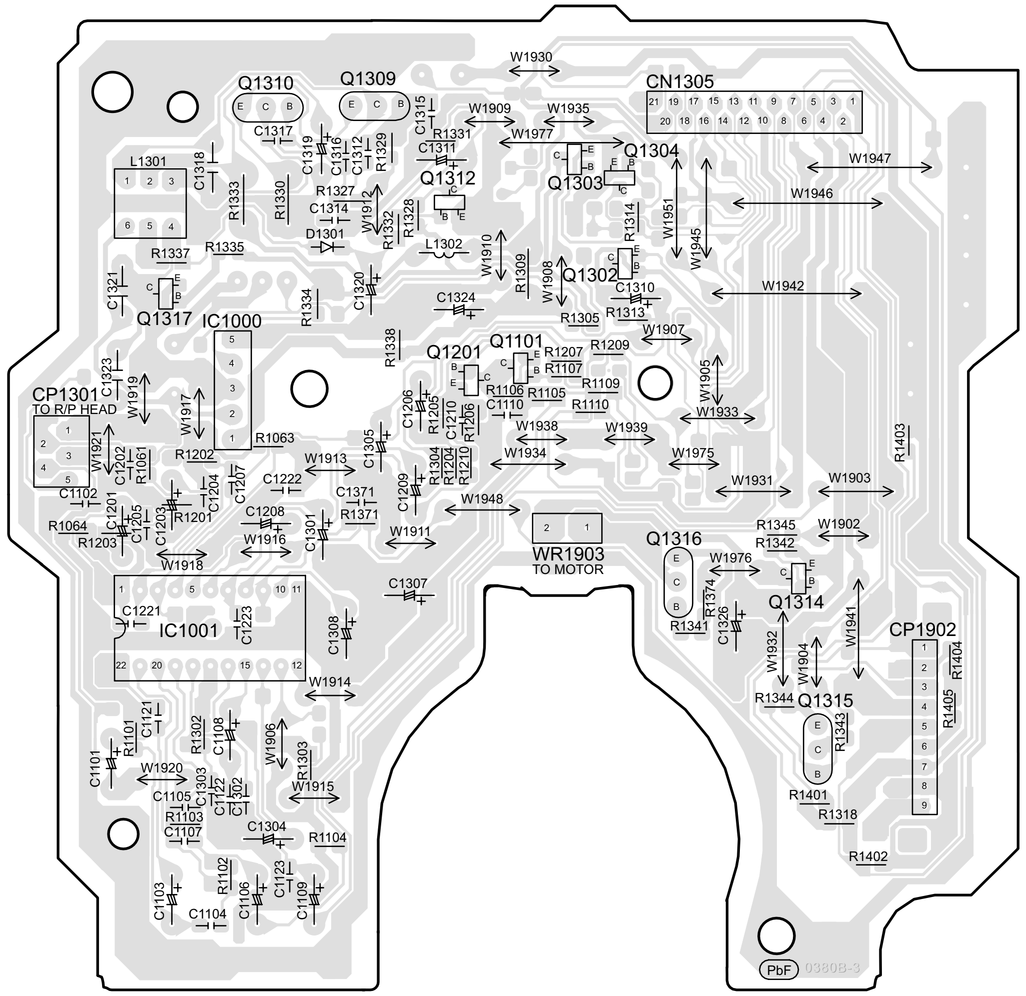
Note: Circuit board diagrams may be modified at any time with the development of new technology.

20.1. (A) CD Servo P.C.B., (F) Deck P.C.B. & (G) Deck Mechanism P.C.B.

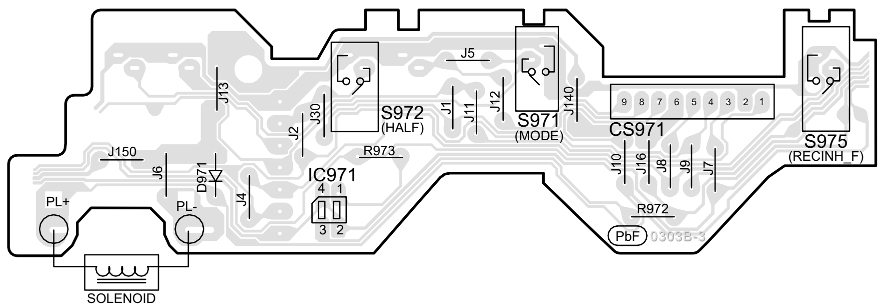
A CD SERVO P.C.B (REPV0111A)



F DECK P.C.B (REPV0134B)

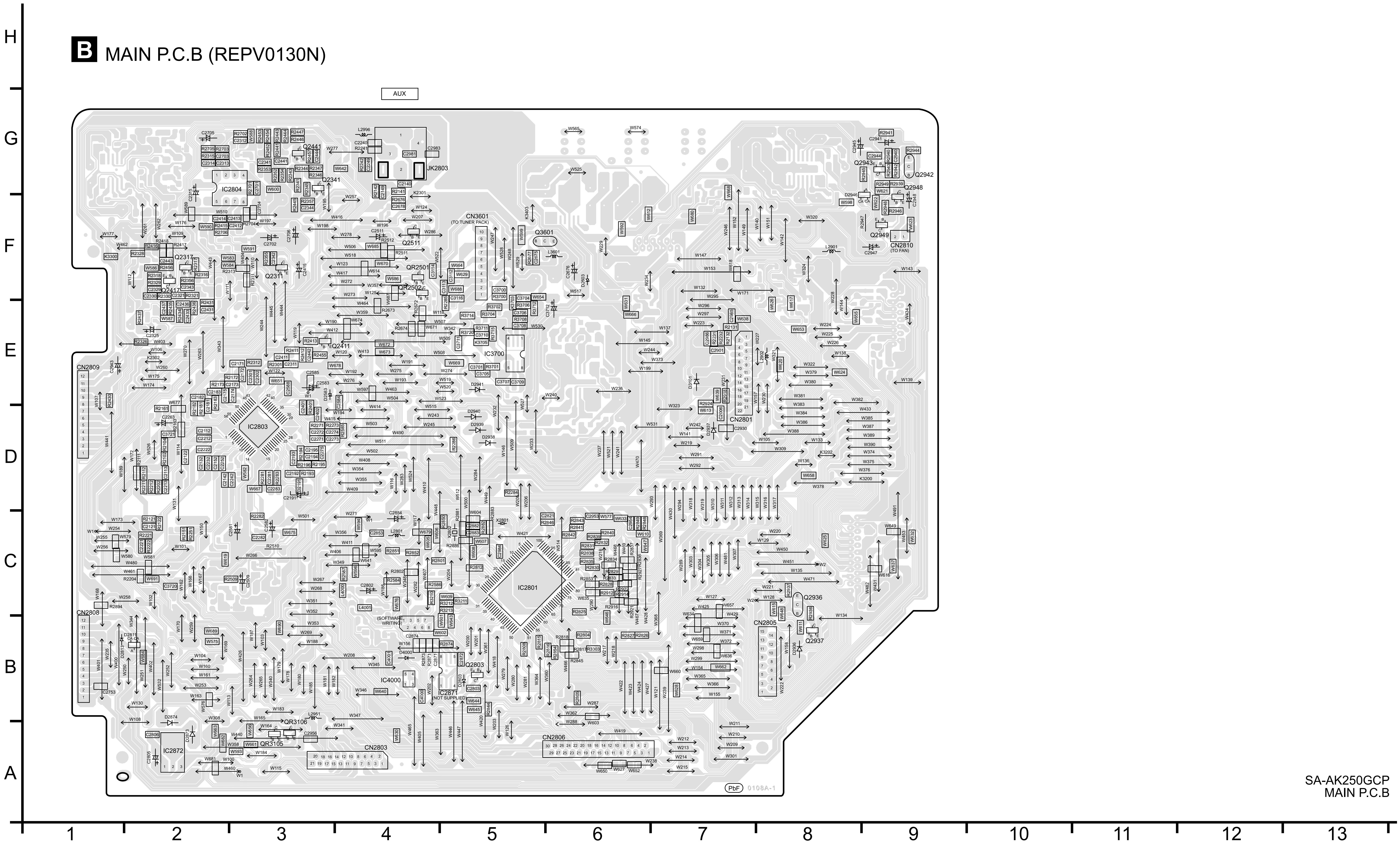


G DECK MECHANISM P.C.B (REPX0321F)

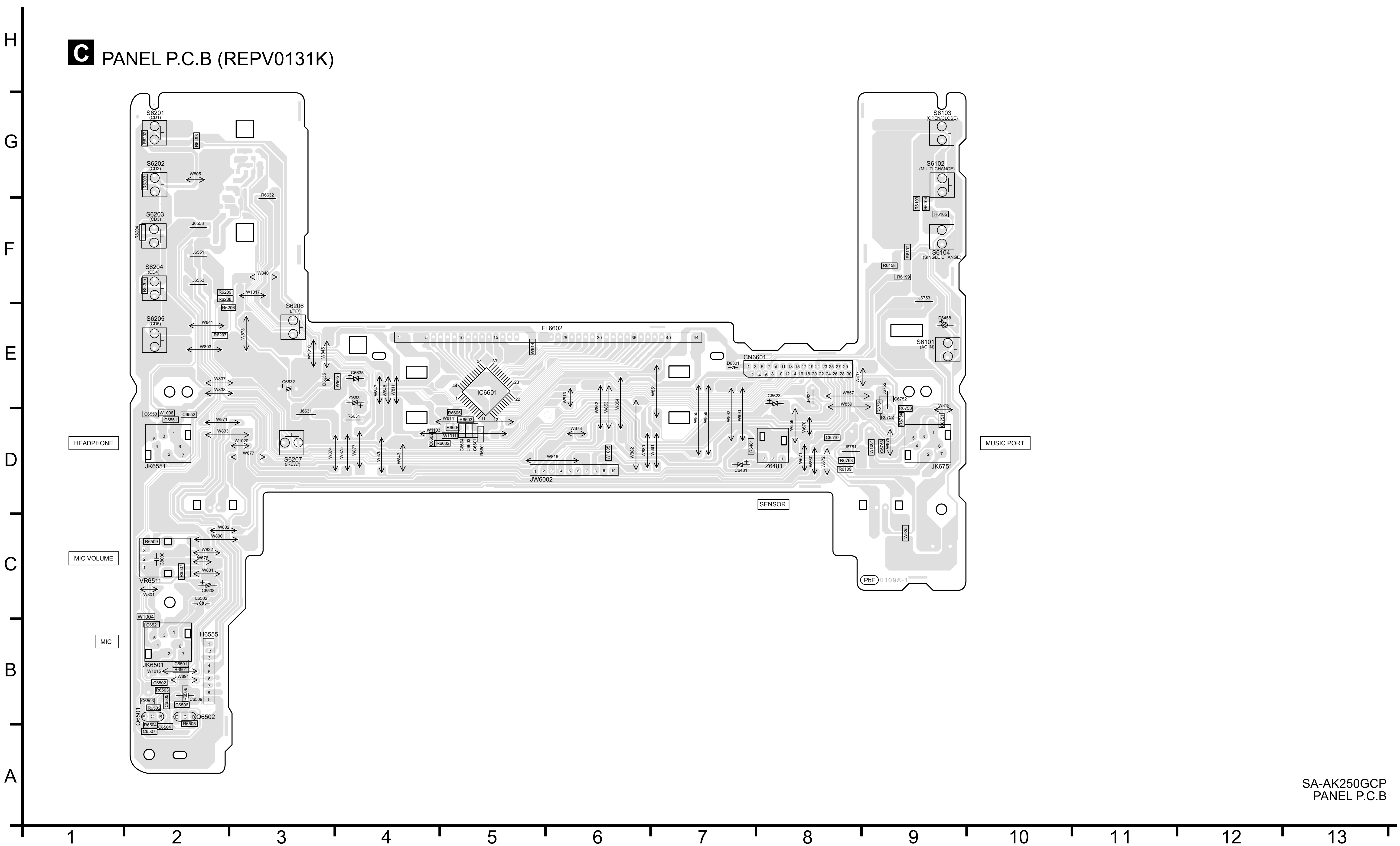


SA-AK250GCP
CD SERVO/ DECK/ DECK MECHANISM P.C.B

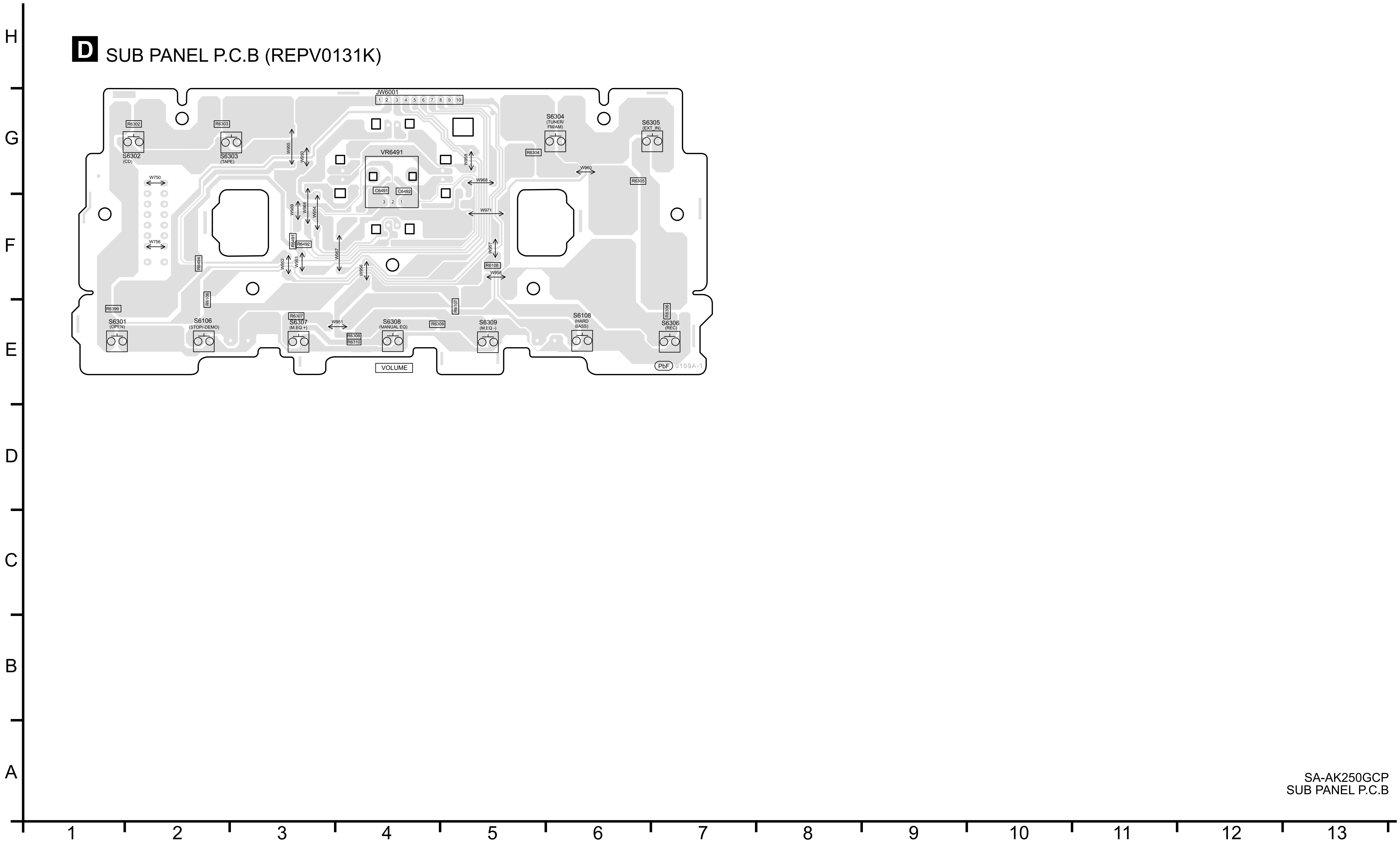
20.2. (B) Main P.C.B.



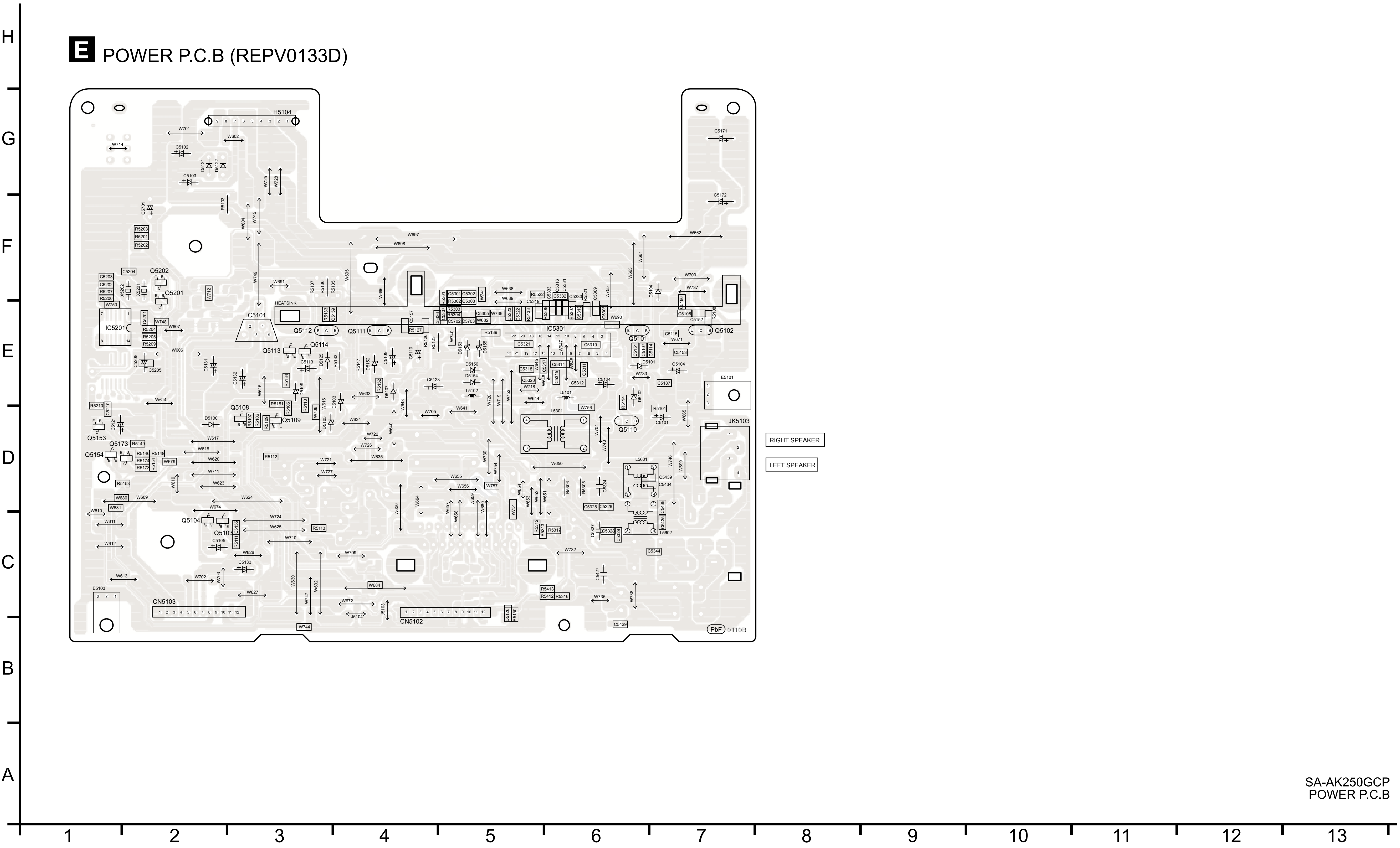
20.3. (C) Panel P.C.B.



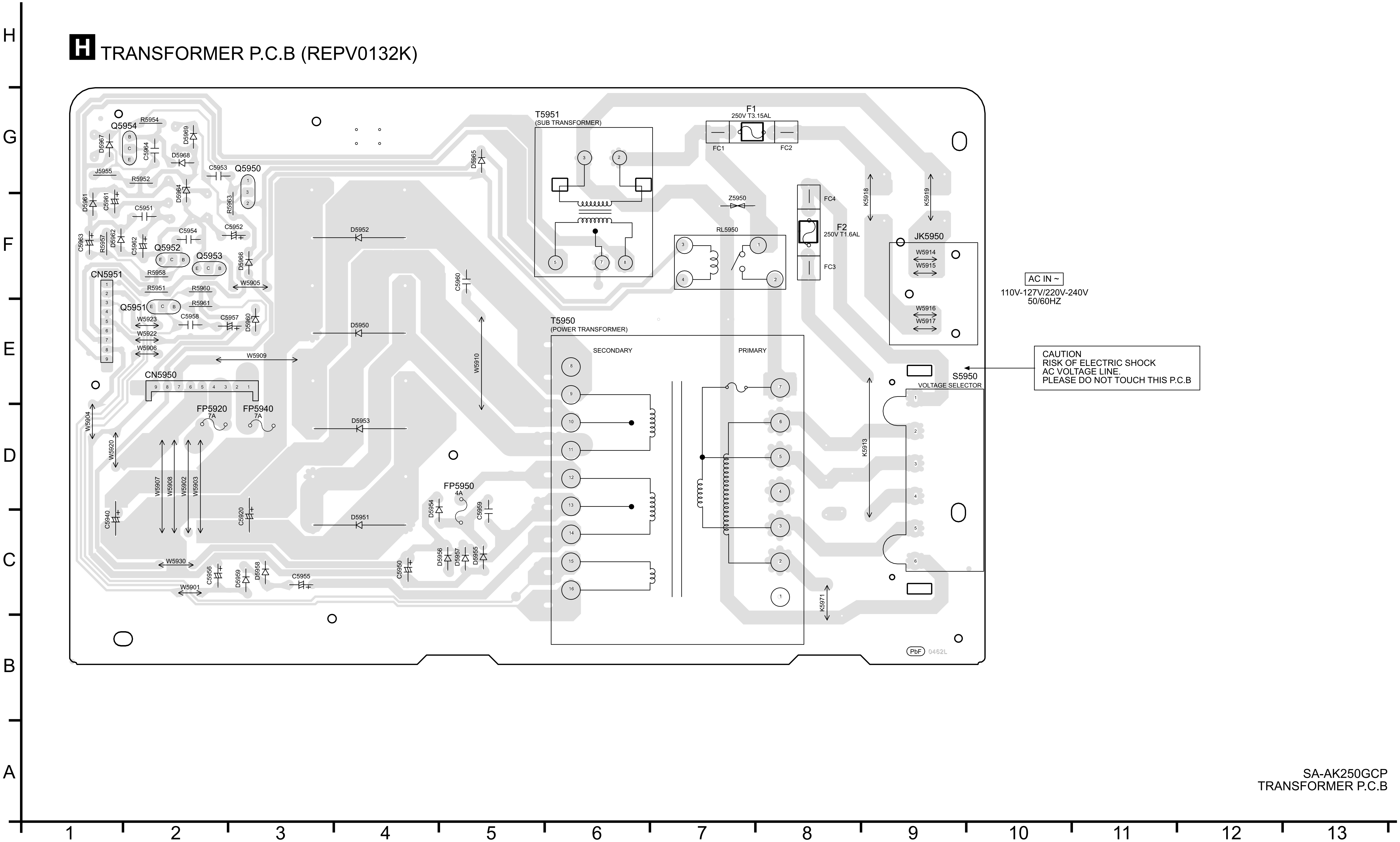
20.4. (D) Sub Panel P.C.B.



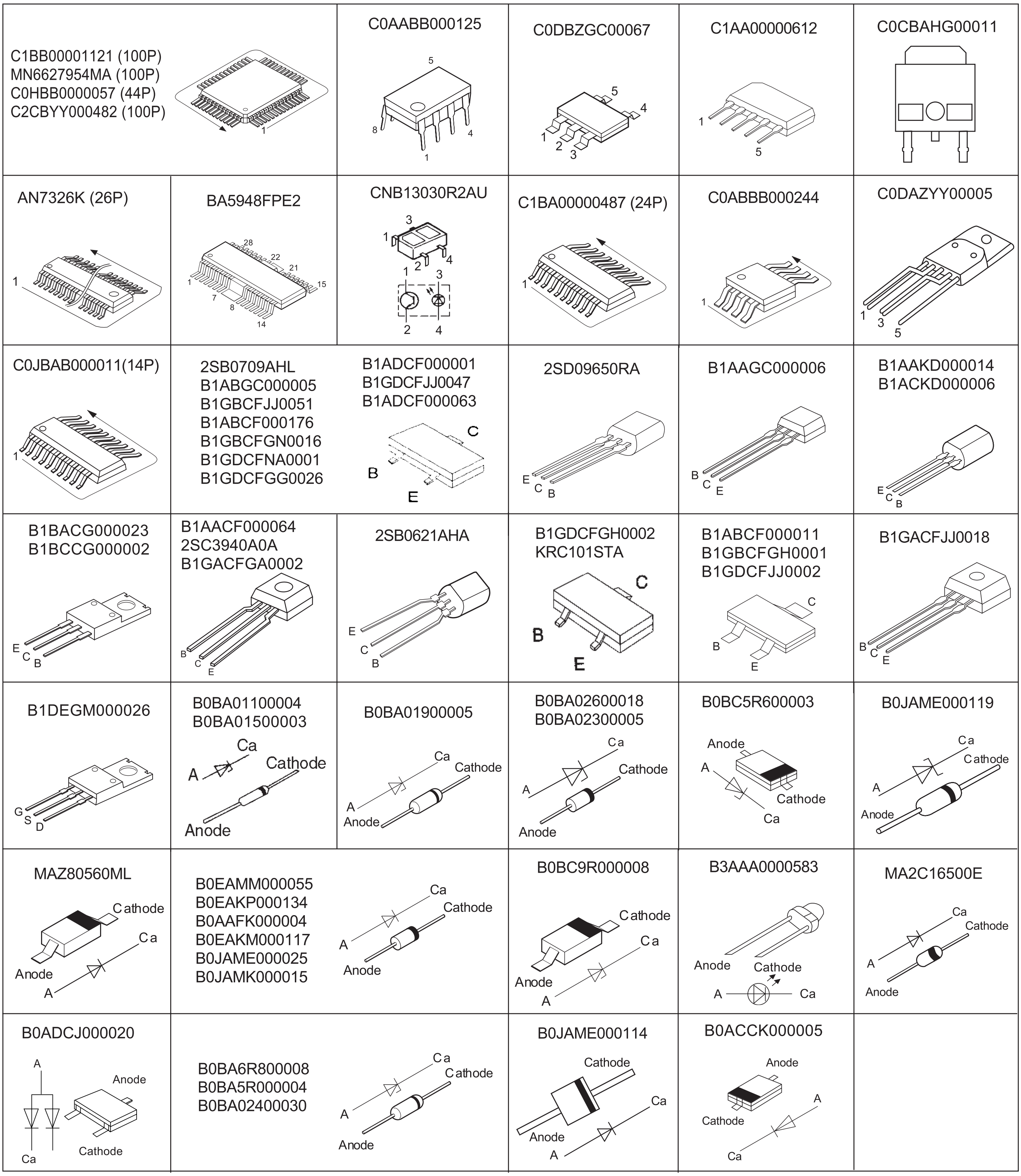
20.5. (E) Power P.C.B.



20.6. (H) Transformer P.C.B.



21 Illustration of ICs, Transistors and Diodes



22 Terminal Function of IC's

22.1. IC7001 (MN6627954MA) Servo Processor,Digital Signal Processor/Digital filter and D/A Converter

Pin No.	Mark	I/O	Function
1	A11	O	DRAM address signal O/P 11
2	A9	O	DRAM address signal O/P 9
3	A8	O	DRAM address signal O/P 8
4	A7	O	DRAM address signal O/P 7
5	A6	O	DRAM address signal O/P 6
6	A5	O	DRAM address signal O/P 5
7	A4	O	DRAM address signal O/P 4
8	NWE	O	Write Enable Signal (DRAM)
9	NCAS	O	DRAM CAS Control Signal
10	NRAS	O	DRAM ARS Control Signal
11	A3	O	DRAM address Signal O/P 3
12	A2	O	DRAM address Signal O/P 2
13	A1	O	DRAM address Signal O/P 1
14	A0	O	DRAM address Signal O/P 0
15	A10	O	DRAM address Signal O/P 10
16	BA0	-	Motor O/P (0);/Serial I/P (No connection)
17	BA1	-	Motor O/P (1);/Serial I/P (No connection)
18	PRAMVSS33	-	GND (DRAM)
19	PRAMVDD33	-	Power Supply Voltage (DRAM)
20	PRAMVDD15	-	Power Supply Voltage (+1.6V)
21	SPOUT	O	Spindle Drive O/P
22	PC	I/O	Spindle motor drive O/P signal
23	TRVP	O	Traverse Drive O/P (+ve)
24	TRP	O	Tracking Drive O/P (+ve)
25	FOP	O	Focusing Drive O/P (+ve)
26	DVSS1	-	GND
27	IOVDD2	-	Digital Power Supply Voltage 2 (I/O)
28	DVDD1	-	Digital Power Supply Voltage 1 (Built-In)
29	SRVMON0	-	Servo Monitor (0) O/P (No connection)
30	SRVMON1	-	Servo Monitor (1) O/P (No connection
31	AVSS2	-	GND
32	OSCIN	-	Oscillating Input
33	CTRCRS	-	Tracking Cross Comparator Terminal
34	VREF	-	+Vref Supply Voltage
35	E	I	Tracking Input Signal 1
36	F	I	Tracking Input Signal 2
37	D	I	Focusing Input Signal 4
38	B	I	Focusing Input Signal 2
39	C	I	Focusing Input Signal 3
40	A	I	Focusing Input Signal 1
41	PD	I	APC Amp I/P
42	LD	O	Laser Drive Current O/P
43	CENV	-	Detection Capacitance Connection terminal
44	RFENV	O	RF Envelope O/P
45	RFOUT	O	RF Summing Amp O/P
46	RFIN	I	SGC I/P
47	AVDD2	-	Analog Power Supply voltage 2 (For DSL/PLL)
48	ARFDC	-	AGC Capacitive Connection Terminal
49	ARFOUT	O	AGC Output
50	ARFFB	I	ARF Feedback Signal I/P
51	ARFIN	I	Audio RF Signal I/P
52	DSLF	-	Loop Filter Terminal (For DSL)

Pin No.	Mark	I/O	Function
53	IREF	I	Reference I/P
54	PLLF	-	PLL Loop Filter Terminal (Phase Compare)
55	PLLF0	-	PLL Loop Filter Terminal (Speed Compare)
56	OUTL	O	Audio O/P (LCH)
57	AVSS1	-	GND
58	AVDD1	-	Analog Power Supply Voltage 1
59	OUTR	O	Audio O/P (RCH)
60	DVSS3	-	GND3 (Digital Circuit)
61	NSRVMONON	O	Servo Motor O/P Enabling
62	EXT0	O	Expansion O/P Port 0
63	EXT1	O	Expansion O/P Port 1
64	EXT2	O	Expansion O/P Port 2
65	FLAG	-	Flag Signal O/P (No connection)
66	TX	-	Digital Audio Interface O/P signal
67	MCLK	I	Micro-Computer Command Clock I/P
68	MDATA	I	Micro-Computer Data I/P
69	MLD	I	Micro-Computer Load I/P
70	STAT	O	Status Signal O/P
71	*BLKCK	O	Subcode Blk Clock
72	NRST	O	LSI Reset Signal
73	*DQSYTXT	-	Pack Signal O/P for CD-Text data (No connection)
74	*SMCK	-	Micro-Computer Clock O/P (No connection)
75	*PMCK	-	IOCNT Serial data O/P (Synchronous O/P) (No connection)
76	DVDD2	-	Digital Power Supply Voltage 2 (+1.5V)
77	IOVDD1	-	Digital Power Supply Voltage 1 (For I/O)
78	DVSS2	-	GND2 (For Digital Circuit)
79	NTEST2	I	Test Mode Setting (ON:H)
80	X2	O	Crystal Oscillating Circuit O/P
81	X1	I	Crystal Oscillating Circuit I/P
82	NTEST	I	Test Mode Setting I/P (ON:H)
83	D2	I/O	Data Sigmal O/P 2
84	D1	I/O	Data Signal O/P 1
85	D0	I/O	Data Signal O/P 0
86	D3	I/O	Data Signal O/P 3
87	D4	I/O	Data Signal O/P 4
88	D5	I/O	Data Signal O/P 5
89	D6	I/O	Data Signal O/P 6
90	D7	I/O	Data Signal O/P 7
91	D15	I/O	Data Signal O/P 15
92	D14	I/O	Data Signal O/P 14
93	DRVDD	-	I/O Power Supply Voltage (DRAM)
94	D13	I/O	Data Signal O/P 13
95	D12	I/O	Data Signal O/P 12
96	D11	I/O	Data Signal O/P 11
97	D10	I/O	Data Signal O/P 10
98	D9	I/O	Data Signal O/P 9
99	D8	I/O	Data Signal O/P 8
100	SDRCK	O	Clock Signal O/P

22.2. IC7002 (BA5948FPE2) IC 4CH Drive

Pin No.	Mark	I/O	Function
1	IN2	I	Motor Driver 92 Input
2	PC2	I	Turntable Motor Drive Signal ("L":ON)
3	IN1	I	Motor Drive (1) Input
4	PC1	-	Traverse Motor Drive Signal ("L"): ON)
5-8	N.C.	-	No Connection
9	PGND1	-	Ground Connection (1) for Drive
10	PVCC1	-	Power Supply (1) for Drive
11	D1-	O	Motor Drive (1) reverse - action output
12	D1+	O	Motor Drive (1) forward - action output
13	D2-	O	Motor Drive (2) reverse - action output
14	D2+	O	Motor Drive (2) forward - action output
15	D3-	O	Motor Drive (3) reverse - action output
16	D3+	O	Motor Drive (3) forward - action output
17	D4-	O	Motor Drive (4) reverse - action output
18	D4+	O	Motor Drive (4) forward - action output
19	PVCC2	-	Power Supply (2) for Driver
20	PGND2	-	Ground Connection (2) for Driver
21-24	N.C.	-	No Connection
25	VCC	-	Power Supply terminal
26	VREF	-	Reference Voltage Input
27	IN4	I	Motor Driver (4) Input
28	IN3	I	Motor Driver (3) Input

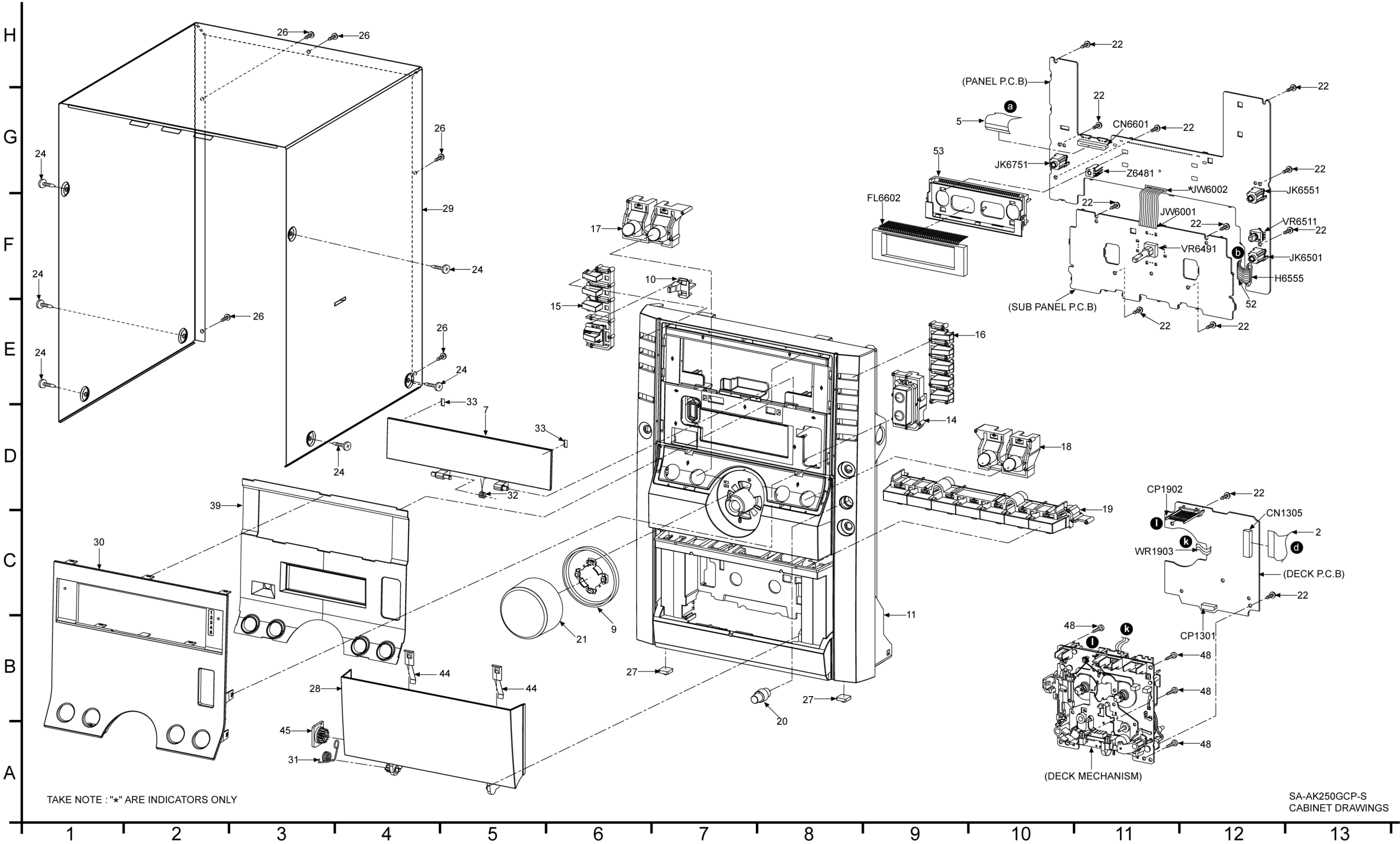
22.3. IC2801 (C2CBYY000482) System Microprocessor

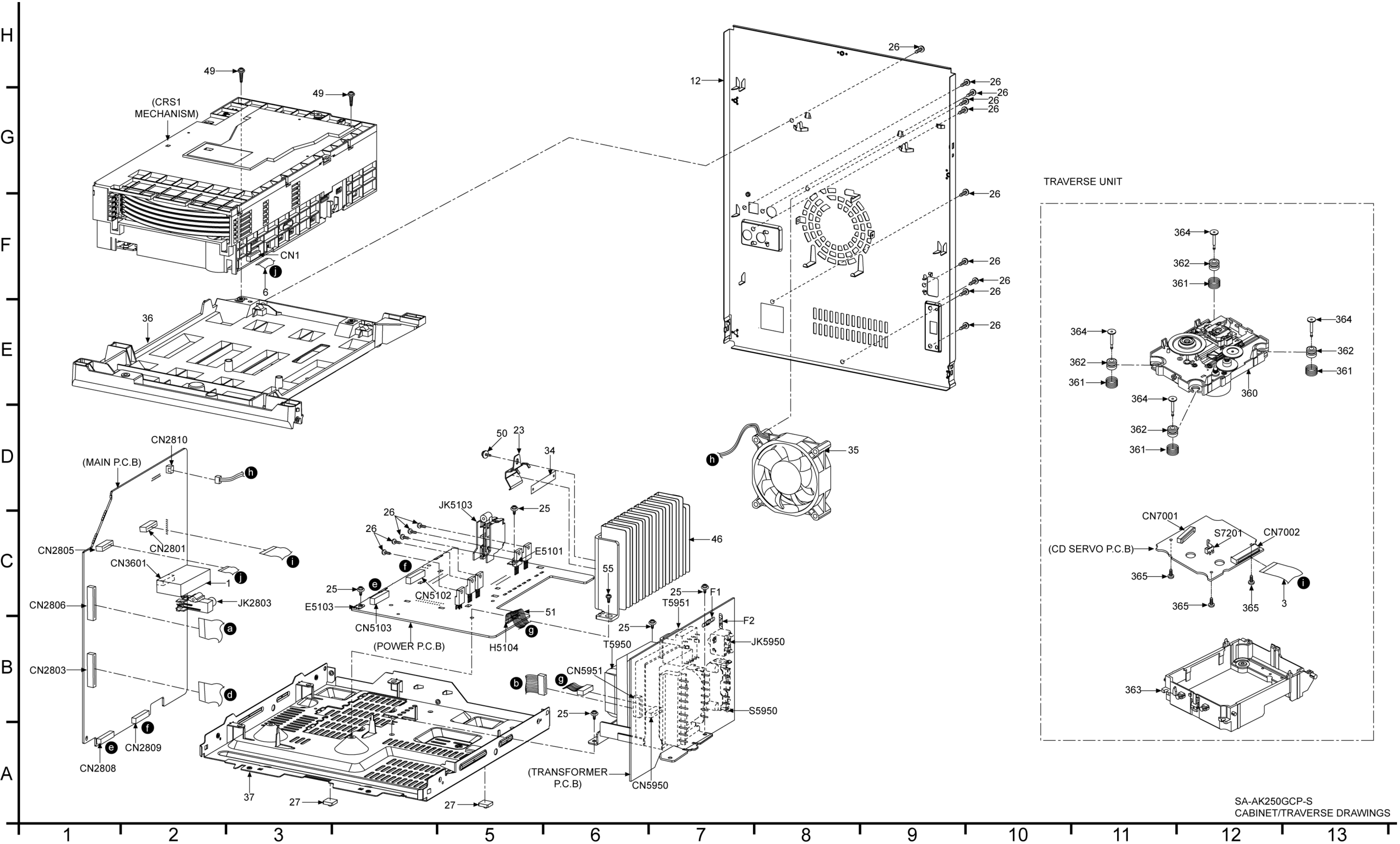
Pin No.	Mark	I/O	Function
1	LM_1	-	No connection
2	D_PORT DET1	-	No connection
3	D_PORT DET2	-	No connection
4	RDS_DAT	-	No connection
5	RDS_CLK	-	No connection
6	IP_LINK	-	No connection
7	F_HOP	O	Frequency Hopping
8	BYTE	-	External Data Bus Width Select Input (Connect to Ground)
9	CNVSS	-	Flash Mode Terminal
10	Xcin	-	32.768 kHz Sub Clock
11	Xcout	-	32.768 kHz Sub Clock
12	/RESET	-	/RESET Input (ACTIVE L)
13	Xout	-	10 MHz Main Clock
14	Vss	-	Ground (0V)
15	Xin	-	10 MHz Main Clock
16	Vcc	-	Power Supply (+5V)
17	/NMI	-	Connect to Vcc (+5V)
18	RMT	I	Remote Control Input
19	BLKCK	I	CD Block Clock Input (Inverted)
20	SYNC	I	AC Failure Detect Input
21	D0	O	Serial Output Data
22	DI	I	Serial Input Data
23	S/WOOFER CS	I	Subwoofer Chip Select
24	SW_LVL1	-	No connection
25	SW_LVL2	-	No connection
26	ASP DAT	O	ASP Data
27	ASP_CLK	O	ASP Clock
28	FL CS	I	FL Chip Select
29	PLL_DATA	I	Tuner PLL Data
30	PLL_CLK	I	Tuner PLL Clock
31	USB_SDA (TxD)	-	No connection
32	USB_SCL (RxD)	-	No connection
33	USB_RST	-	No connection
34	XM_MUTE (BUSY)	-	No connection
35	XM_TX_OUT	-	No connection
36	XM_RX_IN	-	No connection
37	XM_I2S_RATE	-	No connection
38	XM_LINK ACTIVE	-	No connection
39	MUTE_DA	O	D-Amp Muting Control
40	MUTE_A	O	Audio Muting Control
41	EE_CS/EFP/EPM	O	EEPROM Chip Select (Flash EPM for On board writer)
42	EE_CLK	O	EEPROM CLOCK
43	EE_DAT	I/O	EEPROM DATA
44	XM_DAC_RESET	-	No connection
45	XM_ANT_REV	-	No connection
46	PCONT/EFP/CS	O	Power Control Output
47	DCDET	I	DC Detect Input
48	XM_RST	-	No connection
49	XM_PCONT	-	No connection
50	STANDBY	O	For Digital AMP 5->0v during FHOP
51	VOL_LED	O	Volume LED Drive
52	CE	I	TUNER CE
53	DMT	O	Deck mute at mecha transition. L=mute OFF, H=mute ON
54	BOTTOM_SW	I	Bottom switch for CRS1
55	UP_SENSOR	I	Up/Down sensor for CRS1
56	PLG	O	Plunger Control O/P
57	PHOTO	I	Photo (SG mechanism only)
58	MTR	I/O	Deck motor control ("L" for motor OFF)
59	REC	I/O	H when record circuit is operating
60	MMOD0	I	Micon Mode Switching for USB Version Up using CD
61	PAM CS	I	PAM Region Model Chip Select
62	VCC	-	Power Supply (+5V)
63	H BASS_LED	O	Harmonic Bass LED Drive
64	Vss	-	Ground (0V)
65	D-PORT_R-SKIP	-	No connection
66	D-PORT_F-SKIP	-	No connection
67	D-PORT_STOP	-	No connection
68	D-PORT_RES2	-	No connection
69	D-PORT_RES1	-	No connection
70	FL_CS	O	FL Driver Chip Select
71	FL_DOUT	O	Serial Data To FL Driver
72	FL_CLK	O	Serial Clock To FL Driver
73	VOL_LED_CS	I	VOL LED Chip Select
74	USB_REQ	-	No connection
75	STATUS	I	CD Servo LSI Status Input
76	MLD	I/O	CD Command Load Output
77	MDATA_OUT	I/O	CD Command Data Output
78	MCLK	I/O	CD Command Clock Output

Pin No.	Mark	I/O	Function
79	/RESET_SW	I	CD Limit Switch Input for the most Inner Point (Active Low)
80	HOME_SW	I	Home Switch for CRS1
81	CD_RST	I/O	CD Reset output
82	CLOSE_SW	I	CLOSE switch for CRS1
83	OPEN_SW	I	Open switch for CRS1
84	CW	O	CRS1 motor CW
85	CCW	O	CRS1 motor CCW
86	ST_SW	I	Stock switch for CRS1
87	PLAY_SW	I	Play switch for CRS1
88	PLUNGER	O	Plunger for CRS1
89	REG	-	Region Setting
90	VOL_JOG	I	Volume jog
91	D-PORT_ PCONT	-	No connection
92	KEY3	I	Key 3 Input
93	KEY2	I	Key 2 Input
94	KEY1	I	Key 1 Input
95	DECK_AD1	I	Deck AD input 1
96	AVSS	-	Analog Power Supply Input (Connect to GND)
97	DECK_AD2	I	Deck AD input 2
98	VREF	-	Reference for A-D (5V)
99	AVCC	-	Analog Power Supply Input
100	DEMO_SET	I	(H= Default demo On, L= Default demo off)

23 Exploded Views

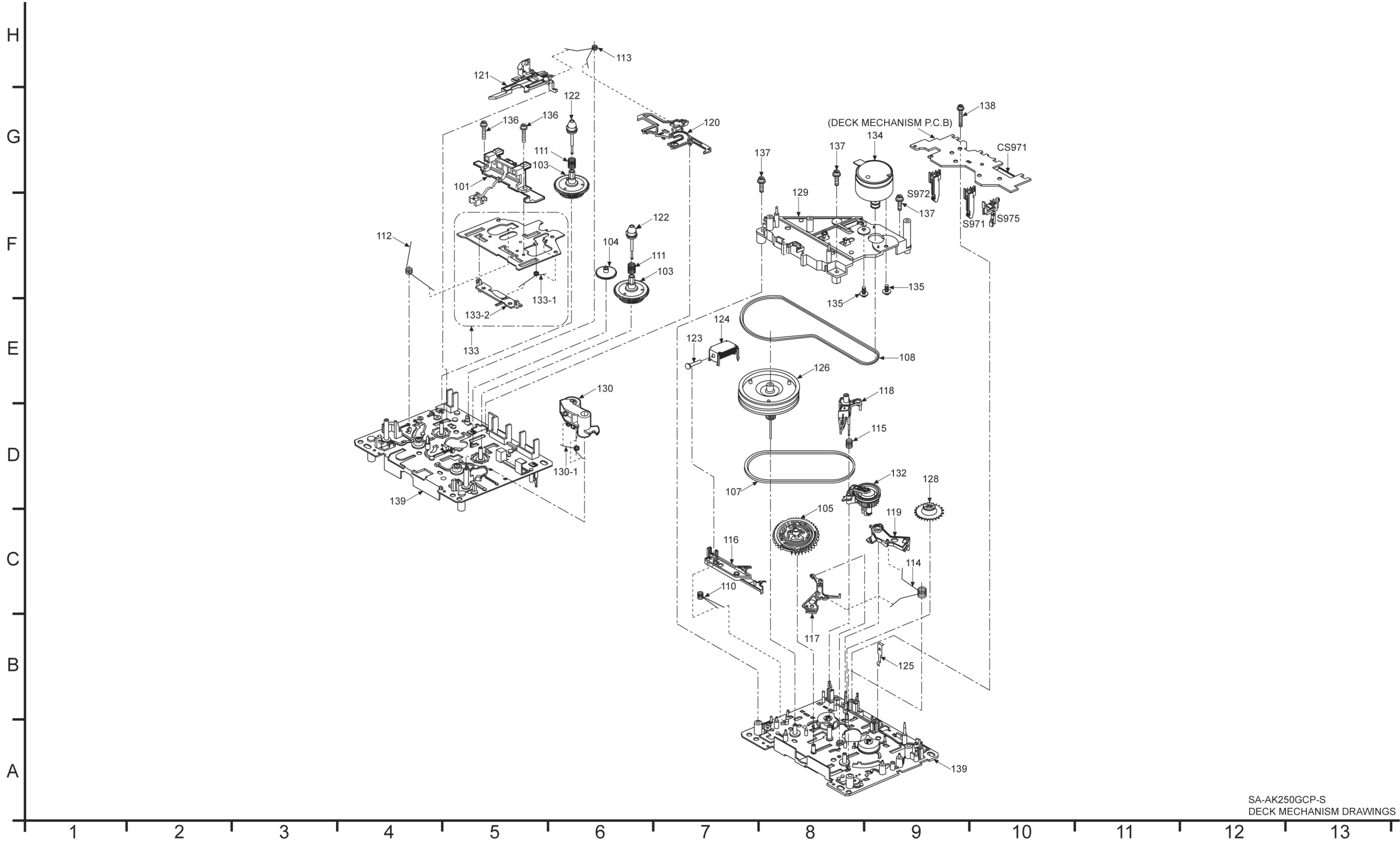
23.1. Cabinet Parts Location



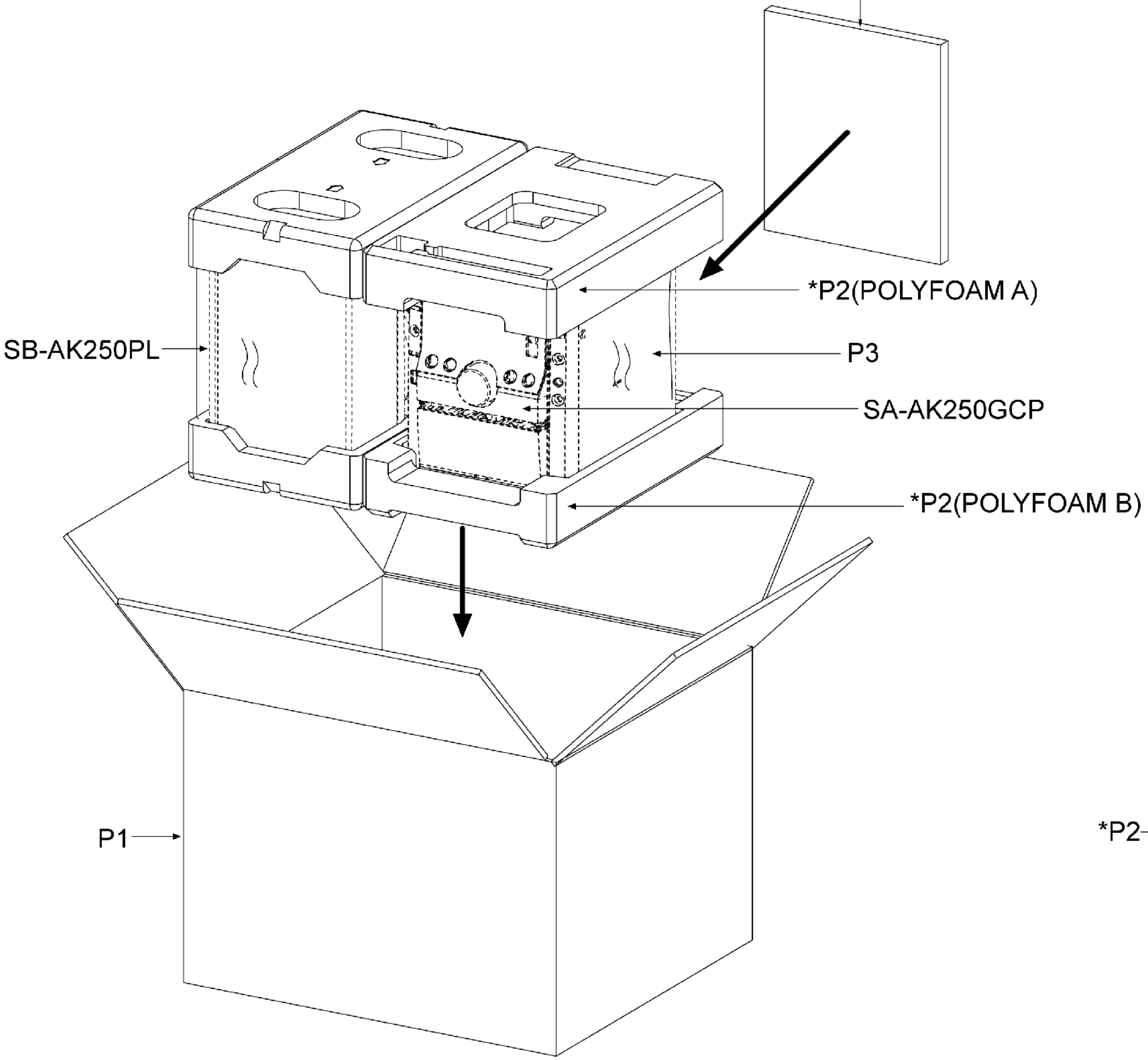


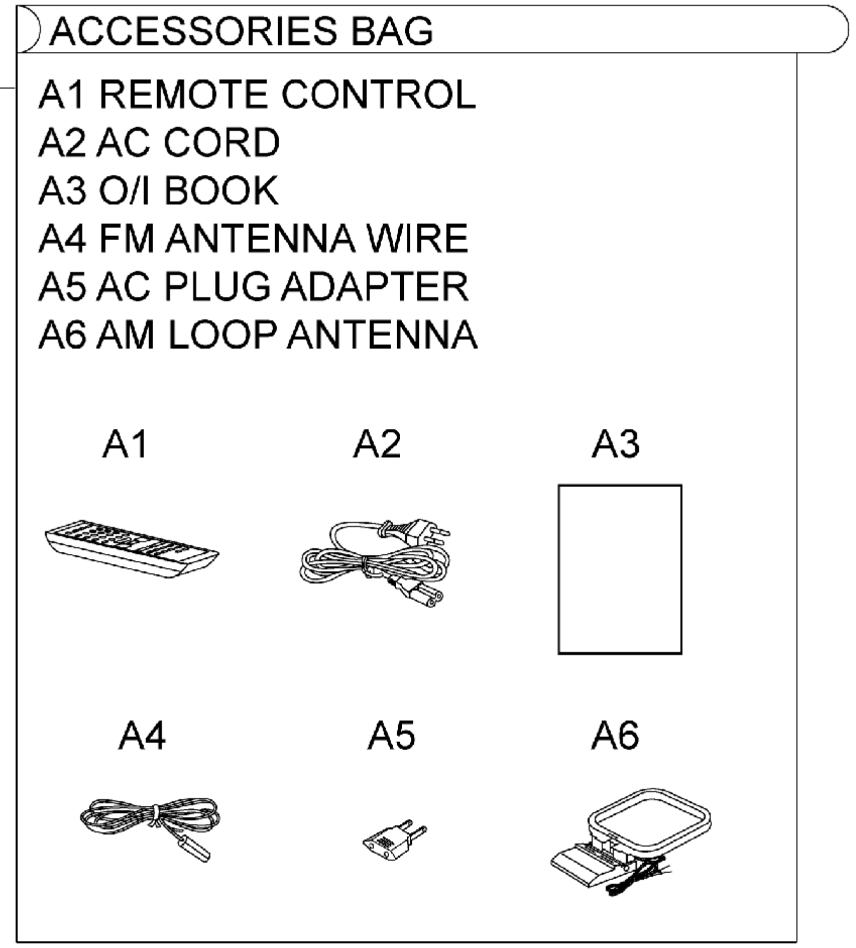
SA-AK250GCP-S
CABINET/TRAVERSE DRAWINGS

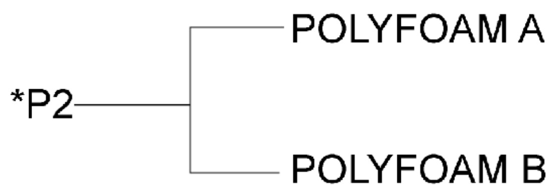
23.2. Deck Mechanism Parts Location (RAA4403-S)



23.3. Packaging







SC-AK250GCP-S
PACKAGING DRAWINGS

24 Replacement Parts List

Notes:

- Important safety notice:

  Components identified by ⚠ mark have special characteristics important for safety.

  Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.

  When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.
- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)

  Parts without these indications can be used for all areas.
- Warning: This product uses a laser diode. Refer to caution statements on "Precaution of Laser Diode".
- Capacitor values are in microfarads (μF) unless specified otherwise, P= Pico-farads (pF), F= Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).
- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
- [M] Indicates in the Remarks columns indicates parts supplied by **PAVCSG.**
- Reference for O/I book languages are as follows:

Ar:	Arabic	Du:	Dutch	It:	Italian	Sp	Spanish
Cf:	Canadian French	En:	English	Ko:	Korean	Sw:	Swedish
Cz:	Czech	Fr:	French	Po:	Polish	Co:	Traditional Chinese
Da:	Danish	Ge:	German	Ru:	Russian	Cn:	Simplified Chinese
Pe:	Persian	Ur:	Ukraine	Pr:	Portuguese		

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	J3CCBB000009	TUNER PACK	[M]
2	REEV0139	21P FFC (DECK-MAIN)	[M]
3	REEV0140	22P FFC (CD-MAIN)	[M]
5	REEV0190	30P FFC	[M]
6	REEX0747	14P FFC WIRE	[M]
7	RGKV0158-K	CD LID	[M]
9	RGLV0069-Q	VOLUME KNOB LIGHT	[M]
10	RGLV0070-Q	POWER BUTTON LIGHT	[M]
11	RGPV0105-S	FRONT PANEL	[M]
12	RGRV0052M-A	REAR PANEL	[M]
14	RGUV0163-K	SELECTOR BUTTON	[M]
15	RGUV0164-S	CD CHANGER/POWER BTN	[M]
16	RGUV0165-S	5CD CHANGE BUTTON	[M]
17	RGUV0166-K	FUNCTION BUTTON L	[M]
18	RGUV0167-K	FUNCTION BUTTON R	[M]
19	RGUV0177-1S	7 CONTROL BUTTON	[M]
20	RGWX0056-3S	MIC VOLUME KNOB	[M]
21	RGWX0072-1S	VOLUMR KNOB	[M]
22	RHD26046-L	SCREW	[M]
23	RMC0158-S2	TRANSISTOR HOLDER	[M]
24	RHD30007-1SJ	SCREW	[M]
25	RHD30111-3	SCREW	[M]
26	RHD30119-S	SCREW	[M]
27	RKA0072-KJ	LEG CUSHION	[M]
28	RKFV0062-1S	CASSETTE LID	[M]
29	RKMV0071-SJ	TOP PANEL	[M]
30	RKWV0068H-K	FL WINDOW	[M]
31	RMBV0042-2	CASS LID SPRING	[M]
32	RMBV0052	DVD LID SPRING	[M]
33	RMGX0033	CUSHION RUBBER	[M]
34	RMGX0044-1	D.AMP. INSULATOR	[M]
35	L6FALEFH0030	FAN UNIT	[M]
36	RMKX0113-3	CD CHASSIS	[M]
37	RMKX0118A	BOTTOM CHASSIS	[M]
39	RMVV0073-K	FL WINDOW BACKGROUND	[M]
44	RUS757ZAA	CASS HALF SPRING	[M]
45	RXGX0002	DAMPER GEAR	[M]
46	RXXV0048	HEAT SINK UNIT	[M]
48	XTV3+10GFJ-M	SCREW	[M]
49	XTW3+12TFJ	SCREW	[M]
50	XTWS3+6TFJ	SCREW	[M]
51	REXX0325	9P FLAT WIRE	[M]
52	REXX0324-1	9P FLAT WIRE	[M]
53	RMNV0079	FL HOLDER	[M]
55	XTW3+10TFC	SCREW	[M]
		CASSETTE DECK	
101	RED0067-2	P/B HEAD	[M]
103	RDG0300	REEL BASE GEAR	[M]
104	RDG0301	WINDING RELAY GEAR	[M]
105	RDK0026-4	MAIN GEAR	[M]
107	RDV0033-4	WINDING BELT	[M]
108	RDV0064-1	CAPSTAN BELT	[M]
110	RMB0312	TRIGGER LEVER SPRING	[M]
111	RMB0400	REEL SPRING	[M]
112	RMB0403	HEAD PANEL SPRING	[M]
113	RMB0404	BRAKE ROD SPRING	[M]
114	RMB0406-5	FR LEVER SPRING	[M]
115	RMB0408	THRUST SPRING	[M]
116	RML0370-4	TRIGGER LEVER	[M]
117	RML0371	FR LEVER	[M]
118	RML0372-2	WINDING LEVER	[M]
119	RML0374-2	EJECT LEVER	[M]
120	RMM0131-1	BRAKE ROD	[M]
121	RMM0133-1	EJECT ROD	[M]
122	RMQ0519	REEL HUB	[M]
123	RMS0398-1	MOVING CORE	[M]
124	RXQ0470-2	PLUNGER ASS'Y	[M]
125	RMC0061	PACK SPRING	[M]
126	RXF0061-1	FLYWHEEL F ASS'Y	[M]
128	RXG0040	FF RELAY GEAR ASS'Y	[M]
129	RMK0283A-2	SUB-CHASSIS	[M]
130	RXL0124	PINCH ROLLER F ASS'Y	[M]
130-1	RMB0401	PINCH ARM SPRING F	[M]
132	RXL0126	WINDING ARM ASS'Y	[M]
133	RXQ0412-3	HEAD PANEL ASS'Y	[M]
133-1	RMB0405-1	FR ROD SPRING	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
133-2	RMM0132-1	FR ROD	[M]
134	REM0120	CAP MOTOR ASS'Y	[M]
135	RHD26022-1	MOTOR SCREW	[M]
136	XTW2+5LFJ	H/BLOCK UNIT SCREW	[M]
137	XTW26+10SFJ	SUB-CHASSIS SCREW	[M]
138	XYC2+JF17FJ	PCB EARTH SCREW	[M]
139	RFKJSTR280PP	CHASSIS ASS'Y	[M]
		TRAVERSE DECK	
360	RAE0165A-V	TRV UNIT (WITHOUT CD SERVO P.C.B.)	[M] ⚠
361	RME0109-1	FLOATING SPRING	[M]
362	RMG0703-R	FLOATING RUBBER	[M]
363	RMRX0064-1	MIDDLE CHASSIS	[M]
364	RMS0757-1	FIXED PIN	[M]
365	XTN2+6GFJ	SCREW	[M]
		PRINTED CIRCUIT BOARD	
	REPV0111A	CD SERVO P.C.B.	[M](RTL)
	REPV0134B	DECK P.C.B.	[M](RTL)
	REPX0321F	DECK MECHANISM P.C.B.	[M](RTL)
	REPV0130N	MAIN P.C.B.	[M](RTL)
	REPV0131K	PANEL P.C.B.	[M](RTL)
	REPV0131K	SUB PANEL P.C.B.	[M](RTL)
	REPV0133D	POWER P.C.B.	[M](RTL)
	REPV0132K	TRANSFORMER P.C.B.	[M](RTL)
		INTEGRATED CIRCUITS	
IC971	CNB13030R2AU	IC PHOTO INTERUPTOR	[M]
IC1000	C1AA00000612	IC ANALOG SWITCH	[M]
IC1001	AN7326K	IC DECK R/P	[M]
IC2801	C2CBYY000482	IC MICROPROCESSOR	[M]
IC2803	C1BB00001121	IC AUDIO SOUND PROCESSOR	[M]
IC2804	C0AABB000125	IC OP AMP	[M]
IC2872	C0CBAHG00011	IC VOLTAGE REGULATOR	[M]
IC3700	C0ABBB000244	IC SMT OP AMP	[M]
IC4000	C0DBZGC00067	IC 3.3V REGULATOR	[M]
IC5101	C0DAZYY00005	IC REGULATOR	[M]
IC5201	C0JBAB000011	IC LOGIC	[M]
IC5301	C1BA00000487	IC 2-CH DIGITAL AMP	[M]
IC6601	C0HBB0000057	IC FL DRIVER	[M]
IC7001	MN6627954MA	IC SERVO PROCESSOR/ DIGITAL SIGNAL PROCESSOR/ DIGITAL FILTER D/A CONVERTER	[M]
IC7002	BA5948FPE2	IC 4 CH DRIVE	[M]
		TRANSISTORS	
Q1101	B1ABGC000005	TRANSISTOR	[M]
Q1201	B1ABGC000005	TRANSISTOR	[M]
Q1302	B1GDCFJJ0002	TRANSISTOR	[M]
Q1303	B1GBCFGH0001	TRANSISTOR	[M]
Q1304	B1GDCFGH0002	TRANSISTOR	[M]
Q1309	B1AAGC000006	TRANSISTOR	[M]
Q1310	B1AAGC000006	TRANSISTOR	[M]
Q1312	B1ABCF000011	TRANSISTOR	[M]
Q1314	B1GDCFGH0002	TRANSISTOR	[M]
Q1315	B1ACKD000006	TRANSISTOR	[M]
Q1316	2SD09650RA	TRANSISTOR	[M]
Q1317	B1ABGC000005	TRANSISTOR	[M]
Q2142	B1ABCF000176	TRANSISTOR	[M]
Q2242	B1ABCF000176	TRANSISTOR	[M]
Q2311	B1ABGC000005	TRANSISTOR	[M]
Q2317	B1ABCF000176	TRANSISTOR	[M]
Q2341	B1ABGC000005	TRANSISTOR	[M]
Q2411	B1ABGC000005	TRANSISTOR	[M]
Q2417	B1ABCF000176	TRANSISTOR	[M]
Q2441	B1ABGC000005	TRANSISTOR	[M]
Q2511	B1GDCFJJ0047	TRANSISTOR	[M]
Q2803	B1GBCFJJ0051	TRANSISTOR	[M]
Q2936	B1ACKD000006	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q2937	B1GBCFJJ0051	TRANSISTOR	[M]
Q2942	B1ACKD000006	TRANSISTOR	[M]
Q2943	B1ABCF000176	TRANSISTOR	[M]
Q2948	B1ABCF000176	TRANSISTOR	[M]
Q2949	B1ABCF000176	TRANSISTOR	[M]
Q3601	2SC3940A0A	TRANSISTOR	[M]
Q5101	B1DEGM000026	TRANSISTOR	[M]
Q5102	B1DEGM000026	TRANSISTOR	[M]
Q5103	B1ABCF000176	TRANSISTOR	[M]
Q5104	B1ABCF000176	TRANSISTOR	[M]
Q5108	B1ABCF000176	TRANSISTOR	[M]
Q5109	2SB0709AHL	TRANSISTOR	[M]
Q5110	B1GACFGA0002	TRANSISTOR	[M]
Q5111	B1BACG000023	TRANSISTOR	[M]
Q5112	B1BCCG000002	TRANSISTOR	[M]
Q5113	B1GDCFNA0001	TRANSISTOR	[M]
Q5114	B1ABCF000176	TRANSISTOR	[M]
Q5153	B1ABCF000176	TRANSISTOR	[M]
Q5154	2SB0709AHL	TRANSISTOR	[M]
Q5173	B1ABCF000176	TRANSISTOR	[M]
Q5201	B1ABCF000176	TRANSISTOR	[M]
Q5202	B1ADCF000063	CHIP TRANSISTOR	[M]
Q5231	B1ABGC000005	TRANSISTOR	[M]
Q5950	B1AAKD000014	TRANSISTOR	[M]
Q5951	2SB0621AHA	TRANSISTOR	[M]
Q5952	B1GACFJJ0018	TRANSISTOR	[M]
Q5953	B1AACF000064	TRANSISTOR	[M]
Q5954	B1AAGC000007	TRANSISTOR	[M]
Q6501	B1AACF000064	TRANSISTOR	[M]
Q6502	B1AACF000064	TRANSISTOR	[M]
Q7601	B1ADCF000001	TRANSISTOR	[M]
QR2501	B1GDCFJJ0047	CHIP TRANSISTOR	[M]
QR2502	B1GBCFGN0016	CHIP TRANSISTOR	[M]
QR3105	KRC101STA	CHIP TRANSISTOR	[M]
QR3106	KRC101STA	CHIP TRANSISTOR	[M]
QR5230	B1GDCFGG0026	TRANSISTOR	[M]
QR5231	B1ABGC000005	CHIP TRANSISTOR	[M]
QR5232	B1GDCFGG0026	TRANSISTOR	[M]
QR5233	B1ABGC000005	CHIP TRANSISTOR	[M]
		DIODES	
D971	MA2C16500E	DIODE	[M]
D1301	B0ACCK000005	DIODE	[M]
D2191	B0ACCK000005	DIODE	[M]
D2241	B0ACCK000005	DIODE	[M]
D2583	B0BC9R000008	DIODE	[M]
D2603	B0BC9R000008	DIODE	[M]
D2803	B0ACCK000005	DIODE	[M]
D2811	B0ADCJ000020	DIODE	[M]
D2813	B0ACCK000005	DIODE	[M]
D2936	B0EAKM000117	DIODE	[M]
D2937	B0EAKM000117	DIODE	[M]
D2938	B0EAKM000117	DIODE	[M]
D2939	B0EAKM000117	DIODE	[M]
D2940	B0EAKM000117	DIODE	[M]
D2941	B0EAKM000117	DIODE	[M]
D2946	B0ADCJ000020	DIODE	[M]
D4000	B0JAME000114	DIODE	[M]
D5101	B0BA01100004	DIODE	[M]
D5102	B0BA02600018	DIODE	[M]
D5103	B0BA5R000004	DIODE	[M]
D5104	B0BA01100004	DIODE	[M]
D5105	B0BA02300005	DIODE	[M]
D5107	B0BA01500003	DIODE	[M]
D5109	B0BA01100004	DIODE	[M]
D5121	B0EAKP000134	DIODE	[M]
D5122	B0EAKP000134	DIODE	[M]
D5125	B0AAFK000004	DIODE	[M]
D5126	B0ACCK000005	DIODE	[M]
D5130	B0JAME000025	DIODE	[M]
D5152	B0BA01900005	DIODE	[M]
D5153	B0JAME000119	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D5154	B0JAME000119	DIODE	[M]
D5155	B0JAME000119	DIODE	[M]
D5156	B0JAME000119	DIODE	[M]
D5950	B0EAMM000055	DIODE	[M]
D5951	B0EAMM000055	DIODE	[M]
D5952	B0EAMM000055	DIODE	[M]
D5953	B0EAMM000055	DIODE	[M]
D5954	B0EAKP000134	DIODE	[M]
D5955	B0EAKP000134	DIODE	[M]
D5956	B0EAKP000134	DIODE	[M]
D5957	B0EAKP000134	DIODE	[M]
D5958	B0EAKP000134	DIODE	[M]
D5959	B0EAKP000134	DIODE	[M]
D5960	B0BA02400030	DIODE	[M]
D5961	B0AAFK000004	DIODE	[M]
D5962	B0AAFK000004	DIODE	[M]
D5964	B0BA6R800008	DIODE	[M]
D5965	B0AAFK000004	DIODE	[M]
D5966	B0AAFK000004	DIODE	[M]
D5967	B0AAFK000004	DIODE	[M]
D5968	B0AAFK000004	DIODE	[M]
D5969	B0AAFK000004	DIODE	[M]
D6301	B0ACCK000005	DIODE	[M]
D6458	B3AAA0000583	DIODE	[M]
D6635	B0BC5R600003	DIODE	[M]
D7650	MAZ80560ML	DIODE	[M]
W257	B0JAMK000015	DIODE	[M]
		VARIABLE RESISTORS	
VR6491	EVEKE2F3024B	VR VOLUME JOG	[M]
VR6511	EVUF2AF15B14	VR MIC JOG	[M]
		SWITCHES	
S971	K0J1BB000017	SW MODE	[M]
S972	K0J1BB000021	SW HALF	[M]
S975	K0J1BB000021	SW RECINH_F	[M]
S5950	K0ABLB000003	SW VOLTAGE SELECTOR	[M] ⚠
S6101	EVQ21405RJ	SW AC IN	[M]
S6102	EVQ21405RJ	SW MULTI CHANGE	[M]
S6103	EVQ21405RJ	SW OPEN/ CLOSE	[M]
S6104	EVQ21405RJ	SW SINGLE CHANGE	[M]
S6106	EVQ21405RJ	SW STOP/ -DEMO	[M]
S6108	EVQ21405RJ	SW HARD BASS	[M]
S6201	EVQ21405RJ	SW CD1	[M]
S6202	EVQ21405RJ	SW CD2	[M]
S6203	EVQ21405RJ	SW CD3	[M]
S6204	EVQ21405RJ	SW CD4	[M]
S6205	EVQ21405RJ	SW CD5	[M]
S6206	EVQ21405RJ	SW /FF/	[M]
S6207	EVQ21405RJ	SW /REW/	[M]
S6301	EVQ21405RJ	SW OPEN	[M]
S6302	EVQ21405RJ	SW CD	[M]
S6303	EVQ21405RJ	SW TAPE	[M]
S6304	EVQ21405RJ	SW TUNER/FM/AM	[M]
S6305	EVQ21405RJ	SW EXT IN	[M]
S6306	EVQ21405RJ	SW REC	[M]
S6307	EVQ21405RJ	SW M.EQ+	[M]
S6308	EVQ21405RJ	SW MANUAL EQ	[M]
S6309	EVQ21405RJ	SW M.EQ-	[M]
S7201	RSH1A048-A	SW REST	[M]
		CONNECTORS	
CN1305	K1MN21B00010	21P CONNECTOR	[M]
CN2801	K1MN22AA0004	22P CONNECTOR	[M]
CN2803	K1MN21A00005	21P CONNECTOR	[M]
CN2805	K1MN14A00049	15P CONNECTOR	[M]
CN2806	K1MN30AA0004	30P CONNECTOR	[M]
CN2808	K1KB12B00037	12P CONNECTOR	[M]
CN2809	K1KB12B00037	12P CONNECTOR	[M]
CN2810	K1KA02AA0186	2P CONNECTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
CN3601	K1KA10AA0031	10P CONNECTOR	[M]
CN5102	K1KA12AA0031	12P CONNECTOR	[M]
CN5103	K1KA12AA0031	12P CONNECTOR	[M]
CN5950	K1KA09AA0319	9P CONNECTOR	[M]
CN5951	K1KA09AA0193	9P CONNECTOR	[M]
CN6601	K1MN30AA0004	30P CONNECTOR	[M]
CN7001	K1MN16B00154	16P CONNECTOR	[M]
CN7002	K1MN22BA0005	22P CONNECTOR	[M]
CP1301	K1MY05AA0043	5P CONNECTOR	[M]
CP1902	K1KA09BA0153	9P CONNECTOR	[M]
CS971	RJU071H09M1	9P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L1301	G2ZZ00000024	BIAS OCS COIL	[M]
L1302	G0C470JA0052	RF CHOKE COIL	[M]
L2901	G0C101JA0052	INDUCTOR	[M]
L4000	D0GBR00JA008	CHIP JUMPER	[M]
L4001	D0GBR00JA008	CHIP JUMPER	[M]
L5101	J0JKB0000037	FILTER	[M]
L5102	J0JKB0000037	FILTER	[M]
L5301	G0B185LA0002	COIL	[M]
L5601	G0B9R5K00001	CHOKE COIL	[M] ⚠
L5602	G0B9R5K00001	CHOKE COIL	[M] ⚠
L6502	G0C100JA0052	INDUCTOR	[M]
LB7262	D0GBR00JA008	CHIP JUMPER	[M]
LB7263	D0GBR00JA008	CHIP JUMPER	[M]
LB7264	D0GBR00JA008	CHIP JUMPER	[M]
T5950	G4CYAYY00135	MAIN TRANSFORMER	[M] ⚠
T5951	G4C2AAJ00005	SUB TRANSFORMER	[M] ⚠
		COMPONENT COMBINATIONS	
Z5950	ERZV10V511CS	ZENER	[M] ⚠
Z6481	B3RAD0000146	REMOTE SENSOR	[M]
		RELAY	
RL5950	K6B1AEA00015	POWER RELAY	[M] ⚠
		OSCILLATORS	
X2801	H0A327200097	CRYSTAL OSCILLATOR	[M]
X2802	H2B100500004	CERAMIC RESONATOR	[M]
X5201	H2A415300001	CRYSTAL OSCILLATOR	[M]
X5202	H2A375300003	CRYSTAL OSCILLATOR	[M]
X7201	H2B169500005	CRYSTAL OSCILLATOR	[M]
		DISPLAY TUBE	
FL6602	A2BD00000172	FL DISPLAY	[M]
		FUSES	
F1	K5D312BLA015	FUSE	[M] ⚠
F2	K5D162BLA013	FUSE	[M] ⚠
		FUSE HOLDER	
FC1	EYF52BCY	FUSE CLIP	[M]
FC2	EYF52BCY	FUSE CLIP	[M]
FC3	EYF52BCY	FUSE CLIP	[M]
FC4	EYF52BCY	FUSE CLIP	[M]
		FUSE PROTECTORS	
FP5920	K5G702A00009	FUSE PROTECTOR	[M] ⚠
FP5940	K5G702Z00004	FUSE PROTECTOR	[M] ⚠
FP5950	K5G402A00025	FUSE PROTECTOR	[M] ⚠

Ref. No.	Part No.	Part Name & Description	Remarks
		HOLDERS	
H5104	K1YF09000001	9P WIRE HOLDER	[M]
H6555	K1YZ09000002	CABLE HOLDER	[M]
		JACKS	
JK2803	K2HA204B0153	JK AUX	[M]
JK5103	K4AC04B00014	JK SPEAKER	[M]
JK5950	K2AA2B000011	JK AC INLET	[M] ⚠
JK6501	K2HC103A0024	JK MIC	[M]
JK6551	K2HC103A0024	JK HP	[M]
JK6751	K2HC1YYA0002	JK MUSIC PORT	[M]
		EARTH TERMINALS	
E5101	K9ZZ00001279	EARTH PLATE	[M]
E5103	K9ZZ00001279	EARTH PLATE	[M]
		WIRE	
W12	ERJ8GEY0R00V	CHIP JUMPER	[M]
W575	ERJ3GEY0R00V	CHIP JUMPER	[M]
W576	ERJ3GEY0R00V	CHIP JUMPER	[M]
W577	ERJ3GEY0R00V	CHIP JUMPER	[M]
W579	ERJ3GEY0R00V	CHIP JUMPER	[M]
W580	ERJ3GEY0R00V	CHIP JUMPER	[M]
W581	ERJ3GEY0R00V	CHIP JUMPER	[M]
W582	ERJ3GEY0R00V	CHIP JUMPER	[M]
W583	ERJ3GEY0R00V	CHIP JUMPER	[M]
W584	ERJ3GEY0R00V	CHIP JUMPER	[M]
W586	ERJ3GEY0R00V	CHIP JUMPER	[M]
W587	ERJ3GEY0R00V	CHIP JUMPER	[M]
W588	ERJ3GEY0R00V	CHIP JUMPER	[M]
W589	ERJ3GEY0R00V	CHIP JUMPER	[M]
W590	ERJ3GEY0R00V	CHIP JUMPER	[M]
W591	ERJ3GEY0R00V	CHIP JUMPER	[M]
W592	ERJ6GEY0R00V	CHIP JUMPER	[M]
W593	ERJ3GEY0R00V	CHIP JUMPER	[M]
W594	ERJ3GEY0R00V	CHIP JUMPER	[M]
W595	ERJ3GEY0R00V	CHIP JUMPER	[M]
W596	ERJ3GEY0R00V	CHIP JUMPER	[M]
W597	ERJ3GEY0R00V	CHIP JUMPER	[M]
W598	ERJ3GEY0R00V	CHIP JUMPER	[M]
W599	ERJ8GEY0R00V	CHIP JUMPER	[M]
W600	ERJ3GEY0R00V	CHIP JUMPER	[M]
W601	ERJ3GEY0R00V	CHIP JUMPER	[M]
W602	ERJ3GEY0R00V	CHIP JUMPER	[M]
W603	ERJ3GEY0R00V	CHIP JUMPER	[M]
W604	ERJ3GEY0R00V	CHIP JUMPER	[M]
W605	ERJ3GEY0R00V	CHIP JUMPER	[M]
W606	ERJ8GEY0R00V	CHIP JUMPER	[M]
W607	ERJ3GEY0R00V	CHIP JUMPER	[M]
W608	ERJ3GEY0R00V	CHIP JUMPER	[M]
W609	ERJ3GEY0R00V	CHIP JUMPER	[M]
W610	ERJ3GEY0R00V	CHIP JUMPER	[M]
W611	ERJ3GEY0R00V	CHIP JUMPER	[M]
W612	ERJ6GEY0R00V	CHIP JUMPER	[M]
W613	ERJ3GEY0R00V	CHIP JUMPER	[M]
W614	ERJ6GEY0R00V	CHIP JUMPER	[M]
W615	ERJ3GEY0R00V	CHIP JUMPER	[M]
W616	ERJ3GEY0R00V	CHIP JUMPER	[M]
W617	ERJ3GEY0R00V	CHIP JUMPER	[M]
W618	ERJ3GEY0R00V	CHIP JUMPER	[M]
W619	ERJ3GEY0R00V	CHIP JUMPER	[M]
W620	ERJ3GEY0R00V	CHIP JUMPER	[M]
W621	ERJ3GEY0R00V	CHIP JUMPER	[M]
W622	ERJ3GEY0R00V	CHIP JUMPER	[M]
W623	ERJ3GEY0R00V	CHIP JUMPER	[M]
W624	ERJ3GEY0R00V	CHIP JUMPER	[M]
W625	ERJ3GEY0R00V	CHIP JUMPER	[M]
W626	ERJ3GEY0R00V	CHIP JUMPER	[M]
W627	ERJ3GEY0R00V	CHIP JUMPER	[M]
W628	ERJ6GEY0R00V	CHIP JUMPER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W629	ERJ3GEY0R00V	CHIP JUMPER	[M]
W630	ERJ6GEY0R00V	CHIP JUMPER	[M]
W631	ERJ6GEY0R00V	CHIP JUMPER	[M]
W632	ERJ3GEY0R00V	CHIP JUMPER	[M]
W633	ERJ3GEY0R00V	CHIP JUMPER	[M]
W634	ERJ8GEY0R00V	CHIP JUMPER	[M]
W635	ERJ3GEY0R00V	CHIP JUMPER	[M]
W636	ERJ3GEY0R00V	CHIP JUMPER	[M]
W637	ERJ3GEY0R00V	CHIP JUMPER	[M]
W638	ERJ6GEY0R00V	CHIP JUMPER	[M]
W639	ERJ6GEY0R00V	CHIP JUMPER	[M]
W640	ERJ6GEY0R00V	CHIP JUMPER	[M]
W641	ERJ6GEY0R00V	CHIP JUMPER	[M]
W642	ERJ6GEY0R00V	CHIP JUMPER	[M]
W643	ERJ6GEY0R00V	CHIP JUMPER	[M]
W644	ERJ6GEY0R00V	CHIP JUMPER	[M]
W645	ERJ6GEY0R00V	CHIP JUMPER	[M]
W646	ERJ6GEY0R00V	CHIP JUMPER	[M]
W647	ERJ6GEY0R00V	CHIP JUMPER	[M]
W648	ERJ6GEY0R00V	CHIP JUMPER	[M]
W649	ERJ6GEY0R00V	CHIP JUMPER	[M]
W650	ERJ6GEY0R00V	CHIP JUMPER	[M]
W651	ERJ3GEY0R00V	CHIP JUMPER	[M]
W652	ERJ6GEY0R00V	CHIP JUMPER	[M]
W653	ERJ6GEY0R00V	CHIP JUMPER	[M]
W654	ERJ6GEY0R00V	CHIP JUMPER	[M]
W655	ERJ6GEY0R00V	CHIP JUMPER	[M]
W656	ERJ6GEY0R00V	CHIP JUMPER	[M]
W657	ERJ6GEY0R00V	CHIP JUMPER	[M]
W658	ERJ6GEY0R00V	CHIP JUMPER	[M]
W659	ERJ6GEY0R00V	CHIP JUMPER	[M]
W660	ERJ6GEY0R00V	CHIP JUMPER	[M]
W661	ERJ6GEY0R00V	CHIP JUMPER	[M]
W662	ERJ8GEY0R00V	CHIP JUMPER	[M]
W663	ERJ6GEY0R00V	CHIP JUMPER	[M]
W664	ERJ3GEY0R00V	CHIP JUMPER	[M]
W666	ERJ6GEY0R00V	CHIP JUMPER	[M]
W667	ERJ6GEY0R00V	CHIP JUMPER	[M]
W668	ERJ6GEY0R00V	CHIP JUMPER	[M]
W669	ERJ8GEY0R00V	CHIP JUMPER	[M]
W670	ERJ6GEY0R00V	CHIP JUMPER	[M]
W671	D0GDR00JA017	CHIP JUMPER	[M]
W672	ERJ8GEY0R00V	CHIP JUMPER	[M]
W673	ERJ8GEY0R00V	CHIP JUMPER	[M]
W674	ERJ8GEY0R00V	CHIP JUMPER	[M]
W675	ERJ6GEY0R00V	CHIP JUMPER	[M]
W676	ERJ6GEY0R00V	CHIP JUMPER	[M]
W677	ERJ6GEY0R00V	CHIP JUMPER	[M]
W678	ERJ6GEY0R00V	CHIP JUMPER	[M]
W679	ERJ3GEY0R00V	CHIP JUMPER	[M]
W679	ERJ8GEY0R00V	CHIP JUMPER	[M]
W680	ERJ3GEY0R00V	CHIP JUMPER	[M]
W681	ERJ3GEY0R00V	CHIP JUMPER	[M]
W682	ERJ3GEY0R00V	CHIP JUMPER	[M]
W684	ERJ3GEY0R00V	CHIP JUMPER	[M]
W690	D0GDR00JA017	CHIP JUMPER	[M]
W690	ERJ3GEY0R00V	CHIP JUMPER	[M]
W706	ERJ6GEY0R00V	CHIP JUMPER	[M]
W712	ERJ3GEY0R00V	CHIP JUMPER	[M]
W744	D0GBR00JA008	CHIP JUMPER	[M]
W748	ERJ6GEY0R00V	CHIP JUMPER	[M]
W750	D0GBR00JA008	CHIP JUMPER	[M]
W751	ERJ8GEY0R00V	CHIP JUMPER	[M]
W756	D0GDR00JA017	CHIP JUMPER	[M]
W757	D0GDR00JA017	CHIP JUMPER	[M]
W903	ERJ6GEY0R00V	CHIP JUMPER	[M]
W904	ERJ6GEY0R00V	CHIP JUMPER	[M]
W905	ERJ6GEY0R00V	CHIP JUMPER	[M]
W906	ERJ6GEY0R00V	CHIP JUMPER	[M]
W907	ERJ6GEY0R00V	CHIP JUMPER	[M]
W908	ERJ6GEY0R00V	CHIP JUMPER	[M]
W909	ERJ6GEY0R00V	CHIP JUMPER	[M]
W910	ERJ6GEY0R00V	CHIP JUMPER	[M]
W911	ERJ6GEY0R00V	CHIP JUMPER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W913	ERJ6GEY0R00V	CHIP JUMPER	[M]
W914	ERJ6GEY0R00V	CHIP JUMPER	[M]
W915	ERJ6GEY0R00V	CHIP JUMPER	[M]
W924	ERJ6GEY0R00V	CHIP JUMPER	[M]
W925	ERJ6GEY0R00V	CHIP JUMPER	[M]
W926	ERJ6GEY0R00V	CHIP JUMPER	[M]
W1000	ERJ8GEY0R00V	CHIP JUMPER	[M]
W1001	ERJ6GEY0R00V	CHIP JUMPER	[M]
W1002	ERJ6GEY0R00V	CHIP JUMPER	[M]
W1003	ERJ8GEY0R00V	CHIP JUMPER	[M]
W1004	ERJ8GEY0R00V	CHIP JUMPER	[M]
W1005	ERJ3GEY0R00V	CHIP JUMPER	[M]
W1006	ERJ8GEY0R00V	CHIP JUMPER	[M]
W1011	ERJ6GEY0R00V	CHIP JUMPER	[M]
W7001	D0GDR00JA017	CHIP JUMPER	[M]
W7002	D0GDR00JA017	CHIP JUMPER	[M]
W7003	D0GDR00JA017	CHIP JUMPER	[M]
W7004	D0GBR00JA008	CHIP JUMPER	[M]
W7005	D0GBR00JA008	CHIP JUMPER	[M]
W7006	ERJ8GEY0R00V	CHIP JUMPER	[M]
W7007	ERJ8GEY0R00V	CHIP JUMPER	[M]
W7008	D0GDR00JA017	CHIP JUMPER	[M]
W7009	D0GBR00JA008	CHIP JUMPER	[M]
W7010	D0GBR00JA008	CHIP JUMPER	[M]
W7011	D0GBR00JA008	CHIP JUMPER	[M]
W7012	D0GBR00JA008	CHIP JUMPER	[M]
W7013	D0GBR00JA008	CHIP JUMPER	[M]
W7014	D0GBR00JA008	CHIP JUMPER	[M]
W7015	D0GBR00JA008	CHIP JUMPER	[M]
W7016	D0GBR00JA008	CHIP JUMPER	[M]
W7017	D0GBR00JA008	CHIP JUMPER	[M]
W7018	D0GBR00JA008	CHIP JUMPER	[M]
W7019	D0GBR00JA008	CHIP JUMPER	[M]
W7020	D0GBR00JA008	CHIP JUMPER	[M]
W7021	D0GBR00JA008	CHIP JUMPER	[M]
W7022	D0GBR00JA008	CHIP JUMPER	[M]
W7023	D0GBR00JA008	CHIP JUMPER	[M]
W7024	D0GBR00JA008	CHIP JUMPER	[M]
W7025	D0GBR00JA008	CHIP JUMPER	[M]
W7026	D0GBR00JA008	CHIP JUMPER	[M]
W7027	D0GBR00JA008	CHIP JUMPER	[M]
W7028	D0GBR00JA008	CHIP JUMPER	[M]
W7029	D0GBR00JA008	CHIP JUMPER	[M]
		WIRES	
W1	REXV0092	WIRE	[M]
W2	REXV0095	WIRE	[M]
W3	REXV0094	WIRE	[M]
W4	REXV0093	WIRE	[M]
WR1903	RWJ0102050KR	2P MOTOR WIRE	[M]
JW6001	RWJ1810060SS	PANEL TO SUB PANEL WIRE (JW6002)	[M]
		PACKING MATERIALS	
P1	RPGV0345-1	PACKING CASE	[M]
P2	RPNV0117	POLYFOAM	[M]
P3	RPFX0198	MIRAMAT SHEET	[M]
		ACCESSORIES	
A1	N2QAYB000142	REMOTE CONTROL	[M]
A1-1	RKK-HTR0283H	R/C BATTERY COVER	[M]
A2	K2CQ2CA00006	AC CORD	[M] ⚠
A3	RQTV0199-1M	O/I BOOK (En/ Sp)	[M]
A4	RSA0007-L1	FM ANTENNA WIRE	[M]
A5	K2DA42E00001	AC PLUG ADAPTOR	[M]
A6	N1DAAAA00001	AM LOOP ANTENNA	[M]
		RESISTORS	

Ref. No.	Part No.	Part Name & Description	Remarks
R972	ERDS2TJ821T	820 1/4W	[M]
R973	ERDS2TJ393T	39K 1/4W	[M]
R1061	ERJ3GEY0R00V	0 1/16W	[M]
R1063	ERJ3GEY0R00V	0 1/16W	[M]
R1064	ERJ3GEY0R00V	0 1/16W	[M]
R1101	D0GB330JA008	33 1/16W	[M]
R1102	D0GB152JA008	1.5K 1/16W	[M]
R1103	D0GB183JA008	18K 1/16W	[M]
R1104	D0GB103JA008	10K 1/16W	[M]
R1105	D0GB222JA007	2.2K 1/16W	[M]
R1106	D0GB104JA008	100K 1/16W	[M]
R1107	D0GB102JA008	1K 1/16W	[M]
R1109	D0GB102JA008	1K 1/16W	[M]
R1110	D0GB333JA008	33K 1/16W	[M]
R1201	D0GB330JA008	33 1/16W	[M]
R1202	D0GB152JA008	1.5K 1/16W	[M]
R1203	D0GB183JA008	18K 1/16W	[M]
R1204	D0GB103JA008	10K 1/16W	[M]
R1205	D0GB222JA007	2.2K 1/16W	[M]
R1206	D0GB104JA008	100K 1/16W	[M]
R1207	D0GB102JA008	1K 1/16W	[M]
R1209	D0GB102JA008	1K 1/16W	[M]
R1210	D0GB333JA008	33K 1/16W	[M]
R1302	D0GB471JA007	470 1/16W	[M]
R1303	D0GB475JA008	4.7M 1/16W	[M]
R1304	D0GB223JA007	22K 1/16W	[M]
R1305	D0GB103JA008	10K 1/16W	[M]
R1309	D0AF471JA039	470 1/4W	[M]
R1313	D0GB103JA008	10K 1/16W	[M]
R1314	D0GB102JA008	1K 1/16W	[M]
R1318	D0GB103JA008	10K 1/16W	[M]
R1327	D0GB472JA007	4.7K 1/16W	[M]
R1328	D0GB153JA008	15K 1/16W	[M]
R1329	D0GB472JA007	4.7K 1/16W	[M]
R1330	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1331	D0GB752JA008	7.5K 1/16W	[M]
R1332	D0GB103JA008	10K 1/16W	[M]
R1333	ERD2FCVJ4R7T	4.7 1/4W	[M]
R1334	D0GB223JA007	22K 1/16W	[M]
R1335	D0GB152JA008	1.5K 1/16W	[M]
R1337	D0GB103JA008	10K 1/16W	[M]
R1338	D0GB472JA007	4.7K 1/16W	[M]
R1341	D0GB471JA007	470 1/16W	[M]
R1342	D0GB473JA007	47K 1/16W	[M]
R1343	D0GB332JA008	3.3K 1/16W	[M]
R1344	D0GB273JA008	27K 1/16W	[M]
R1345	D0GB102JA008	1K 1/16W	[M]
R1371	D0GB223JA007	22K 1/16W	[M]
R1374	D0GB471JA007	470 1/16W	[M]
R1401	D0GB123JA008	12K 1/16W	[M]
R1402	D0GB274JA008	270K 1/16W	[M]
R1403	D0GB103JA008	10K 1/16W	[M]
R1404	D0GB223JA007	22K 1/16W	[M]
R1405	D0GB103JA008	10K 1/16W	[M]
R2102	D0GB222JA007	2.2K 1/16W	[M]
R2104	D0GB273JA007	27K 1/16W	[M]
R2111	D0GB222JA041	2.2K 1/16W	[M]
R2112	D0GB562JA007	5.6K 1/16W	[M]
R2121	D0GB332JA007	3.3K 1/16W	[M]
R2122	D0GB332JA007	3.3K 1/16W	[M]
R2131	D0GB332JA007	3.3K 1/16W	[M]
R2132	D0GB332JA007	3.3K 1/16W	[M]
R2141	D0GB123JA008	12K 1/16W	[M]
R2142	D0GB272JA008	2.7K 1/16W	[M]
R2145	D0GB102JA008	1K 1/16W	[M]
R2146	D0GB102JA008	1K 1/16W	[M]
R2149	D0GB332JA008	3.3K 1/16W	[M]
R2151	D0GBR00JA008	0 1/16W	[M]
R2161	D0GB153JA008	15K 1/16W	[M]
R2163	D0GB563JA007	56K 1/16W	[M]
R2172	D0GB153JA008	15K 1/16W	[M]
R2173	D0GB472JA041	4.7K 1/16W	[M]
R2181	D0GB471JA008	470 1/16W	[M]
R2182	D0GBR00JA008	0 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2183	D0GB222JA008	2.2K 1/16W	[M]
R2193	D0GB472JA041	4.7K 1/16W	[M]
R2194	D0GB104JA007	100K 1/16W	[M]
R2195	D0GB103JA008	10K 1/16W	[M]
R2196	D0GB103JA008	10K 1/16W	[M]
R2202	D0GB222JA007	2.2K 1/16W	[M]
R2204	D0GB273JA007	27K 1/16W	[M]
R2211	D0GB222JA041	2.2K 1/16W	[M]
R2212	D0GB562JA007	5.6K 1/16W	[M]
R2221	D0GB332JA007	3.3K 1/16W	[M]
R2222	D0GB332JA007	3.3K 1/16W	[M]
R2231	D0GB332JA007	3.3K 1/16W	[M]
R2232	D0GB332JA007	3.3K 1/16W	[M]
R2241	D0GB123JA008	12K 1/16W	[M]
R2242	D0GB272JA008	2.7K 1/16W	[M]
R2245	D0GB102JA008	1K 1/16W	[M]
R2246	D0GB102JA008	1K 1/16W	[M]
R2247	D0GB104JA007	100K 1/16W	[M]
R2248	D0GB682JA008	6.8K 1/16W	[M]
R2249	D0GB332JA007	3.3K 1/16W	[M]
R2251	D0GBR00JA008	0 1/16W	[M]
R2271	D0GB153JA008	15K 1/16W	[M]
R2273	D0GB472JA041	4.7K 1/16W	[M]
R2281	D0GB471JA008	470 1/16W	[M]
R2282	D0GBR00JA008	0 1/16W	[M]
R2283	D0GB104JA007	100K 1/16W	[M]
R2284	D0GBR00JA008	0 1/16W	[M]
R2285	D0GBR00JA008	0 1/16W	[M]
R2286	D0GBR00JA008	0 1/16W	[M]
R2301	D0GB153JA007	15K 1/16W	[M]
R2311	D0GB471JA008	470 1/16W	[M]
R2312	D0GB103JA007	10K 1/16W	[M]
R2313	D0GB104JA007	100K 1/16W	[M]
R2315	D0GB683JA007	68K 1/16W	[M]
R2316	D0GB222JA041	2.2K 1/16W	[M]
R2317	D0GB103JA007	10K 1/16W	[M]
R2318	D0GB104JA007	100K 1/16W	[M]
R2321	D0GBR00JA008	0 1/16W	[M]
R2326	D0GB103JA008	10K 1/16W	[M]
R2328	D0GB153JA007	15K 1/16W	[M]
R2329	D0GB103JA007	10K 1/16W	[M]
R2330	D0GB392JA007	3.9K 1/16W	[M]
R2341	D0GB180JA008	18 1/16W	[M]
R2343	D0GB180JA008	18 1/16W	[M]
R2344	D0GBR00JA008	0 1/16W	[M]
R2345	D0GB152JA008	1.5K 1/16W	[M]
R2346	D0GB332JA007	3.3K 1/16W	[M]
R2347	D0GB1R0JA007	1 1/16W	[M]
R2352	D0GB180JA008	18 1/16W	[M]
R2353	D0GBR00JA008	0 1/16W	[M]
R2354	D0GB180JA008	18 1/16W	[M]
R2355	D0GB274JA007	270K 1/16W	[M]
R2356	D0GB184JA007	180K 1/16W	[M]
R2357	D0GB104JA007	100K 1/16W	[M]
R2401	D0GB153JA007	15K 1/16W	[M]
R2411	D0GB471JA008	470 1/16W	[M]
R2412	D0GB103JA007	10K 1/16W	[M]
R2413	D0GB104JA007	100K 1/16W	[M]
R2415	D0GB683JA007	68K 1/16W	[M]
R2416	D0GB222JA041	2.2K 1/16W	[M]
R2417	D0GB103JA007	10K 1/16W	[M]
R2418	D0GB104JA007	100K 1/16W	[M]
R2430	D0GBR00JA008	0 1/16W	[M]
R2431	D0GBR00JA008	0 1/16W	[M]
R2434	D0GB103JA008	10K 1/16W	[M]
R2435	D0GB103JA008	10K 1/16W	[M]
R2436	D0GB392JA007	3.9K 1/16W	[M]
R2437	D0GB153JA007	15K 1/16W	[M]
R2441	D0GB180JA008	18 1/16W	[M]
R2443	D0GB180JA008	18 1/16W	[M]
R2444	D0GBR00JA008	0 1/16W	[M]
R2445	D0GB152JA008	1.5K 1/16W	[M]
R2446	D0GB332JA007	3.3K 1/16W	[M]
R2447	D0GB1R0JA007	1 1/16W	[M]
R2452	D0GB180JA008	18 1/16W	[M]
R2453	D0GBR00JA008	0 1/16W	[M]
R2454	D0GB180JA008	18 1/16W	[M]
R2455	D0GB274JA007	270K 1/16W	[M]
R2456	D0GB184JA007	180K 1/16W	[M]
R2457	D0GB104JA007	100K 1/16W	[M]
R2509	D0GB561JA007	560 1/16W	[M]
R2510	D0AF221JA039	220 1/4W	[M]
R2511	D0GB561JA007	560 1/16W	[M]
R2512	D0GB104JA007	100K 1/16W	[M]
R2584	D0GB334JA007	330K 1/16W	[M]
R2585	D0GB334JA007	330K 1/16W	[M]
R2586	D0GB122JA008	1.2K 1/16W	[M]
R2587	D0GB122JA008	1.2K 1/16W	[M]
R2672	D0GB103JA008	10K 1/16W	[M]
R2673	D0GB682JA008	6.8K 1/16W	[M]
R2674	D0GB473JA041	47K 1/16W	[M]
R2676	D0GBR00JA008	0 1/16W	[M]
R2677	ERJ6GEYJ271V	270 1/10W	[M]
R2701	D0GB102JA008	1K 1/16W	[M]
R2702	D0GB102JA008	1K 1/16W	[M]
R2703	D0GB224JA007	220K 1/16W	[M]
R2704	D0GB224JA007	220K 1/16W	[M]
R2705	D0GB332JA007	3.3K 1/16W	[M]
R2706	D0GB332JA007	3.3K 1/16W	[M]
R2801	D0GB101JA007	100 1/16W	[M]
R2802	D0GB103JA008	10K 1/16W	[M]
R2804	D0GB101JA008	100 1/16W	[M]
R2805	D0GB103JA008	10K 1/16W	[M]
R2808	D0GB101JA008	100 1/16W	[M]
R2812	D0GB104JA007	100K 1/16W	[M]
R2815	D0GB101JA008	100 1/16W	[M]
R2816	D0GB101JA008	100 1/16W	[M]
R2817	D0GB103JA008	10K 1/16W	[M]
R2818	D0GB103JA007	10K 1/16W	[M]
R2825	D0GB101JA007	100 1/16W	[M]
R2826	D0GB473JA041	47K 1/16W	[M]
R2827	D0GB473JA041	47K 1/16W	[M]
R2828	D0GB473JA041	47K 1/16W	[M]
R2829	D0GB473JA041	47K 1/16W	[M]
R2830	D0GB473JA041	47K 1/16W	[M]
R2831	D0GB473JA041	47K 1/16W	[M]
R2832	D0GB473JA041	47K 1/16W	[M]
R2833	D0GB101JA007	100 1/16W	[M]
R2834	D0GB101JA007	100 1/16W	[M]
R2835	D0GB101JA007	100 1/16W	[M]
R2836	D0GB101JA007	100 1/16W	[M]
R2837	D0GB101JA007	100 1/16W	[M]
R2838	D0GB101JA007	100 1/16W	[M]
R2839	D0GB101JA007	100 1/16W	[M]
R2840	D0GB101JA007	100 1/16W	[M]
R2841	D0GB101JA007	100 1/16W	[M]
R2842	D0GB101JA007	100 1/16W	[M]
R2843	D0GB101JA007	100 1/16W	[M]
R2844	D0GB222JA041	2.2K 1/16W	[M]
R2845	D0GB101JA007	100 1/16W	[M]
R2846	D0GB104JA007	100K 1/16W	[M]
R2848	D0GB103JA008	10K 1/16W	[M]
R2849	D0GB563JA008	56K 1/16W	[M]
R2850	D0GB103JA008	10K 1/16W	[M]
R2851	D0GB473JA041	47K 1/16W	[M]
R2852	D0GB223JA041	22K 1/16W	[M]
R2853	D0GB101JA007	100 1/16W	[M]
R2854	D0GB101JA008	100 1/16W	[M]
R2871	D0GB223JA041	22K 1/16W	[M]
R2873	D0GB223JA041	22K 1/16W	[M]
R2874	D0GB472JA041	4.7K 1/16W	[M]
R2881	D0GB221JA041	220 1/16W	[M]
R2882	D0GB106JA007	10M 1/16W	[M]
R2883	D0GB334JA007	330K 1/16W	[M]
R2886	D0GB105JA007	1M 1/16W	[M]
R2894	D0GB473JA041	47K 1/16W	[M]
R2912	D0GB472JA008	4.7K 1/16W	[M]
R2914	D0GB472JA008	4.7K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2916	D0GB472JA008	4.7K 1/16W	[M]
R2918	D0GB102JA008	1K 1/16W	[M]
R2921	D0GB472JA041	4.7K 1/16W	[M]
R2922	D0GB103JA008	10K 1/16W	[M]
R2924	D0GB102JA008	1K 1/16W	[M]
R2927	D0GB102JA008	1K 1/16W	[M]
R2936	D0GB102JA008	1K 1/16W	[M]
R2937	D0GB103JA008	10K 1/16W	[M]
R2939	D0GB473JA041	47K 1/16W	[M]
R2940	D0GB824JA008	820K 1/16W	[M]
R2941	D0GB103JA008	10K 1/16W	[M]
R2942	D0GB562JA007	5.6K 1/16W	[M]
R2943	D0GB103JA008	10K 1/16W	[M]
R2944	D0GB472JA041	4.7K 1/16W	[M]
R2945	D0GB103JA008	10K 1/16W	[M]
R2946	D0GB563JA007	56K 1/16W	[M]
R2947	D0AF270JA039	27 1/4W	[M]
R2948	D0GB101JA007	100 1/16W	[M]
R2949	D0GB473JA041	47K 1/16W	[M]
R3210	D0GB104JA007	100K 1/16W	[M]
R3211	D0GB101JA007	100 1/16W	[M]
R3212	D0GB101JA007	100 1/16W	[M]
R3213	D0GB101JA007	100 1/16W	[M]
R3303	D0GB103JA008	10K 1/16W	[M]
R3700	D0GBR00JA008	0 1/16W	[M]
R3701	D0GB683JA007	68K 1/16W	[M]
R3702	D0GB223JA008	22K 1/16W	[M]
R3704	D0GB223JA008	22K 1/16W	[M]
R3706	D0GB683JA007	68K 1/16W	[M]
R3707	D0GBR00JA008	0 1/16W	[M]
R3708	D0GB683JA007	68K 1/16W	[M]
R3709	D0GB683JA007	68K 1/16W	[M]
R3711	D0GB473JA008	47K 1/16W	[M]
R3712	D0GB473JA008	47K 1/16W	[M]
R3720	D0GBR00JA008	0 1/16W	[M]
R5101	D0GB103JA008	10K 1/16W	[M]
R5103	D0C1103JA020	10K 1W	[M]
R5105	D0GB103JA008	10K 1/16W	[M]
R5106	D0GB223JA041	22K 1/16W	[M]
R5107	D0GB561JA007	560 1/16W	[M]
R5108	D0GB470JA008	47 1/16W	[M]
R5109	D0GB102JA008	1K 1/16W	[M]
R5110	D0GB222JA041	2.2K 1/16W	[M]
R5111	D0GB104JA007	100K 1/16W	[M]
R5112	ERJ3GEYJ564V	560K 1/16W	[M]
R5113	ERJ3GEYJ564V	560K 1/16W	[M]
R5114	ERJ3GEYJ1R8V	1.8 1/16W	[M]
R5123	D0C14R7JA020	4.7 1W	[M]
R5126	D0GB102JA008	1K 1/16W	[M]
R5127	D0GB471JA041	470 1/16W	[M]
R5132	D0AF331JA039	330 1/4W	[M]
R5133	D0GB103JA008	10K 1/16W	[M]
R5134	D0GB122JA008	1.2K 1/16W	[M]
R5135	D0AE2R2JA048	2.2 1/4W	[M]
R5136	D0AE2R2JA048	2.2 1/4W	[M]
R5137	D0AE2R2JA048	2.2 1/4W	[M]
R5138	ERJ8GEYJ100V	10 1/8W	[M]
R5139	ERJ8GEYJ100V	10 1/8W	[M]
R5146	D0GB102JA008	1K 1/16W	[M]
R5147	D0AF2R2JA039	2.2 1/4W	[M]
R5148	D0GB102JA008	1K 1/16W	[M]
R5149	D0GB102JA008	1K 1/16W	[M]
R5150	D0GB224JA007	220K 1/16W	[M]
R5151	D0GB154JA007	150K 1/16W	[M]
R5152	ERJ3GEY0R00V	0 1/16W	[M]
R5153	D0GB101JA007	100 1/16W	[M]
R5154	D0GB101JA007	100 1/16W	[M]
R5173	D0GB102JA008	1K 1/16W	[M]
R5174	ERJ3GEY0R00V	0 1/16W	[M]
R5201	D0GB102JA008	1K 1/16W	[M]
R5202	D0GB104JA007	100K 1/16W	[M]
R5203	D0GB103JA008	10K 1/16W	[M]
R5204	D0GB104JA007	100K 1/16W	[M]
R5205	D0GB104JA007	100K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R5206	D0GB105JA007	1M 1/16W	[M]
R5207	D0GB682JA008	6.8K 1/16W	[M]
R5209	D0GB100JA007	10 1/16W	[M]
R5210	D0GB121JA007	120 1/16W	[M]
R5230	ERJ3GEYJ124V	120K 1/16W	[M]
R5231	ERJ3GEYF124V	120K 1/16W	[M]
R5232	ERJ3GEYF273V	27K 1/16W	[M]
R5233	ERJ3GEYF823V	82K 1/16W	[M]
R5234	D0GB124JA008	120K 1/16W	[M]
R5301	D0GB562JA007	5.6K 1/16W	[M]
R5302	D0GB562JA007	5.6K 1/16W	[M]
R5303	D0GB562JA007	5.6K 1/16W	[M]
R5304	D0GB562JA007	5.6K 1/16W	[M]
R5305	ERG1SJ220E	22 1W	[M]
R5306	ERG1SJ220E	22 1W	[M]
R5307	ERJ8GEYJ100V	10 1/8W	[M]
R5308	ERJ8GEYJ100V	10 1/8W	[M]
R5312	D0GB563JA007	56K 1/16W	[M]
R5313	D0GB154JA007	150K 1/16W	[M]
R5317	D0GB103JA008	10K 1/16W	[M]
R5330	D0GB124JA008	120K 1/16W	[M]
R5412	D0GB224JA007	220K 1/16W	[M]
R5413	D0GB104JA007	100K 1/16W	[M]
R5521	ERJ6GEYJ105V	1M 1/10W	[M]
R5522	ERJ6GEYJ105V	1M 1/10W	[M]
R5951	D0AE332JA048	3.3K 1/4W	[M]
R5952	D0AE472JA048	4.7K 1/4W	[M]
R5954	D0AE824JA048	820K 1/4W	[M]
R5957	D0AE103JA048	10K 1/4W	[M]
R5958	D0AE103JA048	10K 1/4W	[M]
R5960	D0AE472JA048	4.7K 1/4W	[M]
R5961	D0AE151JA048	150 1/4W	[M]
R5963	D0AF820JA039	82 1/4W	[M]
R6102	D0GB102JA008	1K 1/16W	[M]
R6103	D0GB102JA008	1K 1/16W	[M]
R6104	D0GB122JA008	1.2K 1/16W	[M]
R6105	D0GB182JA008	1.8K 1/16W	[M]
R6106	D0GB222JA041	2.2K 1/16W	[M]
R6107	D0GB272JA007	2.7K 1/16W	[M]
R6108	D0GB472JA008	4.7K 1/16W	[M]
R6109	D0GB393JA007	39K 1/16W	[M]
R6199	D0GB103JA008	10K 1/16W	[M]
R6202	D0GB102JA008	1K 1/16W	[M]
R6203	D0GB102JA008	1K 1/16W	[M]
R6204	D0GB122JA008	1.2K 1/16W	[M]
R6205	D0GB182JA008	1.8K 1/16W	[M]
R6206	D0GB222JA041	2.2K 1/16W	[M]
R6207	D0GB272JA007	2.7K 1/16W	[M]
R6208	D0GB393JA007	39K 1/16W	[M]
R6209	D0GB472JA008	4.7K 1/16W	[M]
R6302	D0GB102JA008	1K 1/16W	[M]
R6303	D0GB102JA008	1K 1/16W	[M]
R6304	D0GB122JA008	1.2K 1/16W	[M]
R6305	D0GB182JA008	1.8K 1/16W	[M]
R6306	D0GB222JA041	2.2K 1/16W	[M]
R6307	D0GB272JA007	2.7K 1/16W	[M]
R6308	D0GB472JA008	4.7K 1/16W	[M]
R6309	D0GB682JA008	6.8K 1/16W	[M]
R6310	D0GB103JA008	10K 1/16W	[M]
R6399	D0GB103JA008	10K 1/16W	[M]
R6458	D0GB332JA007	3.3K 1/16W	[M]
R6481	ERJ3GEY0R00V	0 1/16W	[M]
R6491	D0GB223JA041	22K 1/16W	[M]
R6492	D0GB123JA008	12K 1/16W	[M]
R6493	D0GB103JA008	10K 1/16W	[M]
R6494	D0GB103JA008	10K 1/16W	[M]
R6501	D0GB561JA007	560 1/16W	[M]
R6502	D0GB334JA007	330K 1/16W	[M]
R6503	D0GB330JA007	33 1/16W	[M]
R6504	D0GB122JA008	1.2K 1/16W	[M]
R6505	D0GB122JA008	1.2K 1/16W	[M]
R6506	ERJ3GEYJ561V	560 1/16W	[M]
R6506	D0GB222JA007	2.2K 1/16W	[M]
R6507	D0GB102JA008	1K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R6509	D0GB101JA007	100 1/16W	[M]
R6601	D0GB471JA041	470 1/16W	[M]
R6602	D0GB471JA041	470 1/16W	[M]
R6603	D0GB221JA041	220 1/16W	[M]
R6604	D0GB221JA041	220 1/16W	[M]
R6605	D0GB823JA007	82K 1/16W	[M]
R6631	ERD2FCVG470T	47 1/4W	[M]
R6632	ERD2FCVG470T	47 1/4W	[M]
R6751	D0GB332JA007	3.3K 1/16W	[M]
R6752	D0GB152JA008	1.5K 1/16W	[M]
R6753	D0GB332JA007	3.3K 1/16W	[M]
R6754	D0GB152JA008	1.5K 1/16W	[M]
R6763	ERJ3GEY0R00V	0 1/16W	[M]
R7111	D0GB103JA008	10K 1/16W	[M]
R7211	ERJ3GEYJ823V	82K 1/16W	[M]
R7212	ERJ3GEYJ821V	820 1/16W	[M]
R7214	ERJ3GEYJ471V	470 1/16W	[M]
R7217	D0GB102JA008	1K 1/16W	[M]
R7218	D0GB102JA008	1K 1/16W	[M]
R7220	ERJ3GEYJ105V	1M 1/16W	[M]
R7221	ERJ3GEYJ101V	100 1/16W	[M]
R7253	ERJ3GEYJ100V	10 1/16W	[M]
R7254	D0GB102JA008	1K 1/16W	[M]
R7315	ERJ3GEYJ332V	3.3K 1/16W	[M]
R7323	ERJ3GEYJ332V	3.3K 1/16W	[M]
R7325	ERJ3GEYJ331V	330 1/16W	[M]
R7327	D0GB102JA008	1K 1/16W	[M]
R7328	D0GB103JA008	10K 1/16W	[M]
R7329	D0GB102JA008	1K 1/16W	[M]
R7330	ERJ3GEYJ562V	5.6K 1/16W	[M]
R7331	D0GB223JA008	22K 1/16W	[M]
R7332	D0GB102JA008	1K 1/16W	[M]
R7335	ERJ3GEYJ101V	100 1/16W	[M]
R7336	ERJ3GEYJ100V	10 1/16W	[M]
R7339	D0GB102JA008	1K 1/16W	[M]
R7349	ERJ3GEYJ183V	18K 1/16W	[M]
R7601	ERJ3GEYJ4R7V	4.7 1/16W	[M]
R7650	ERJ3GEYJ5R6V	5.6 1/16W	[M]
K3300	D0GBR00JA008	CHIP JUMPER	[M]
K3703	D0GBR00JA008	CHIP JUMPER	[M]
K3705	D0GBR00JA008	CHIP JUMPER	[M]
		CAPACITORS	
C1101	F2A1H1R0A145	1 50V	[M]
C1102	F1H1H471A219	470P 50V	[M]
C1103	F2A1C101A147	100 16V	[M]
C1104	F1H1E273A002	0.027 25V	[M]
C1105	F1H1H471A219	470P 50V	[M]
C1106	F2A1H2R2A145	2.2 50V	[M]
C1107	F1H1H152A219	1500 50V	[M]
C1108	F2A1C100A147	10 16V	[M]
C1109	F2A1H3R3A145	3.3 50V	[M]
C1110	ECJ1VB1H682K	6800P 50V	[M]
C1121	F1H1H102A219	1000P 50V	[M]
C1122	F1H1E103A029	0.01 25V	[M]
C1123	ECJ1VB1H271K	270P 50V	[M]
C1201	F2A1H1R0A145	1 50V	[M]
C1202	F1H1H471A219	470P 50V	[M]
C1203	F2A1C101A147	100 16V	[M]
C1204	F1H1E273A002	0.027 25V	[M]
C1205	F1H1H471A219	470P 50V	[M]
C1206	F2A1H2R2A145	2.2 50V	[M]
C1207	F1H1H152A219	1500P 50V	[M]
C1208	F2A1C100A147	10 16V	[M]
C1209	F2A1H3R3A145	3.3 50V	[M]
C1210	ECJ1VB1H682K	6800P 50V	[M]
C1221	F1H1H102A219	1000P 50V	[M]
C1222	F1H1E103A029	0.01 25V	[M]
C1223	ECJ1VB1H271K	270P 50V	[M]
C1301	ECA1HAK0R1XB	0.1 50V	[M]
C1302	F1H1C333A071	0.033 16V	[M]
C1303	F1H1C333A071	0.033 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1304	F2A1H4R7A014	4.7 50V	[M]
C1305	F2A1C330A234	33 16V	[M]
C1307	ECA1AAK221XQ	220 10V	[M]
C1308	F2A1C220A234	22 16V	[M]
C1310	ECA1HAK0R1XB	0.1 50V	[M]
C1311	ECA1CAK470XB	47 16V	[M]
C1312	F1H1H332A013	3300P 50V	[M]
C1314	F1H1H222A013	2200P 50V	[M]
C1315	F1H1H222A013	2200P 50V	[M]
C1316	F1H1H102A219	1000P 50V	[M]
C1317	F1H1H102A219	1000P 50V	[M]
C1318	ECQV1H473JL3	0.047 50V	[M]
C1319	F2A1C101A147	100 16V	[M]
C1320	F2A1H1R0A145	1 50V	[M]
C1321	F0A2A472A019	4700P 100V	[M]
C1323	ECEA1HKN010B	1 50V	[M]
C1324	ECA1CAK470XB	47 16V	[M]
C1326	F2A1C100A147	10 16V	[M]
C1371	F1H1E103A029	0.01 25V	[M]
C2006	F1H1H102A219	1000P 50V	[M]
C2112	ECJ1VB1C105K	1 16V	[M]
C2113	F1H1H682A219	6800P 50V	[M]
C2121	F1H1H332A013	3300P 50V	[M]
C2122	ECJ1VB1C105K	1 16V	[M]
C2132	ECJ1VB1C105K	1 16V	[M]
C2140	F1H1H102A219	1000P 50V	[M]
C2142	ECJ1VB1C105K	1 16V	[M]
C2149	ECJ1VC1H101K	100P 50V	[M]
C2152	ECJ1VB1C105K	1 16V	[M]
C2171	F1H1A334A036	0.33 10V	[M]
C2172	ECJ1VB1C563K	0.056 16V	[M]
C2173	F1H1H103A219	0.01 50V	[M]
C2174	F1H1H103A219	0.01 50V	[M]
C2175	F1H1H332A013	3300P 50V	[M]
C2181	F1H1A105A025	1 10V	[M]
C2182	F1H1A334A036	0.33 10V	[M]
C2183	ECJ1VB1C224K	0.22 16V	[M]
C2191	F2A1H3R3A234	3.3 50V	[M]
C2192	F1H1C104A041	0.1 16V	[M]
C2193	F1H1A105A025	1 10V	[M]
C2194	ECJ1VB1A124K	0.12 10V	[M]
C2195	F1H1A474A025	0.47 10V	[M]
C2212	ECJ1VB1C105K	1 16V	[M]
C2213	F1H1H682A219	6800P 50V	[M]
C2221	F1H1H332A013	3300P 50V	[M]
C2222	ECJ1VB1C105K	1 16V	[M]
C2232	ECJ1VB1C105K	1 16V	[M]
C2240	F1H1H102A219	1000P 50V	[M]
C2242	ECJ1VB1C105K	1 16V	[M]
C2245	F2A1C100A234	10 16V	[M]
C2249	ECJ1VC1H101K	100P 50V	[M]
C2252	ECJ1VB1C105K	1 16V	[M]
C2263	F2A1H1R0A234	1 50V	[M]
C2271	F1H1A334A036	0.33 10V	[M]
C2272	ECJ1VB1C563K	0.056 16V	[M]
C2273	F1H1H103A219	0.01 50V	[M]
C2274	F1H1H103A219	0.01 50V	[M]
C2275	F1H1H332A013	3300P 50V	[M]
C2281	F1H1A105A025	1 10V	[M]
C2282	F1H1A334A036	0.33 10V	[M]
C2283	F1H1H473A783	0.047 50V	[M]
C2301	F1H1A224A007	0.22 10V	[M]
C2302	F1H1A224A007	0.22 10V	[M]
C2311	F1H1A105A025	1 10V	[M]
C2312	F1H1A105A025	1 10V	[M]
C2313	F1H1H470A230	47P 50V	[M]
C2314	F1H1H100A230	10P 50V	[M]
C2315	F2A1H220A216	22 50V	[M]
C2321	F1H1A105A025	1 10V	[M]
C2325	ECA1HAK010XB	1 50V	[M]
C2329	ECJ1VB1H472K	4700P 50V	[M]
C2330	ECJ1VB1A224K	0.22 10V	[M]
C2341	F1H1H102A219	1000P 50V	[M]
C2342	F1H1A105A025	1 10V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2343	ECJ1VB1A474K	0.47 10V	[M]
C2344	ECJ1VB1A474K	0.47 10V	[M]
C2401	F1H1A224A007	0.22 10V	[M]
C2402	F1H1A224A007	0.22 10V	[M]
C2411	F1H1A105A025	1 10V	[M]
C2412	F1H1A105A025	1 10V	[M]
C2413	F1H1H470A230	47P 50V	[M]
C2414	F1H1H100A230	10P 50V	[M]
C2415	F2A1H220A216	22 50V	[M]
C2431	F1H1A105A025	1 10V	[M]
C2433	F1H1A105A025	1 10V	[M]
C2436	ECJ1VB1A224K	0.22 10V	[M]
C2437	ECJ1VB1H472K	4700P 50V	[M]
C2441	F1H1H102A219	1000P 50V	[M]
C2442	F1H1A105A025	1 10V	[M]
C2443	ECJ1VB1A474K	0.47 10V	[M]
C2444	ECJ1VB1A474K	0.47 10V	[M]
C2509	F2A1H330A215	33 50V	[M]
C2511	ECEA1HKN2R2B	2.2 50V	[M]
C2581	F2A1C101A234	100 16V	[M]
C2582	F2A1C101A234	100 16V	[M]
C2583	F2A1C101A234	100 16V	[M]
C2584	F1H1H221A748	220P 50V	[M]
C2585	F1H1H221A748	220P 50V	[M]
C2588	F1H1C104A041	0.1 16V	[M]
C2673	ECJ1VB1H561K	560P 50V	[M]
C2674	ECJ1VB1H561K	560P 50V	[M]
C2675	ECJ1VC1H101K	100P 50V	[M]
C2676	F2A1C221A236	220 16V	[M]
C2678	F1H1H103A219	0.01 50V	[M]
C2701	F1H1H103A219	0.01 50V	[M]
C2702	F2A1C101A234	100 16V	[M]
C2703	F1H1H471A219	470P 50V	[M]
C2704	F1H1H471A219	470P 50V	[M]
C2705	ECA1HAK010XB	1 50V	[M]
C2706	ECA1HAK010XB	1 50V	[M]
C2753	F1H1C104A042	0.1 16V	[M]
C2802	F2A1H3R3A234	3.3 50V	[M]
C2803	F1H1A105A025	1 10V	[M]
C2805	F2A1C471A236	470 16V	[M]
C2806	F1H1H100A230	10P 50V	[M]
C2821	ECJ1VC1H101K	100P 50V	[M]
C2853	F1H1C104A041	0.1 16V	[M]
C2854	ECA0JAM471XB	470 6.3V	[M]
C2871	F1H1H331A013	330P 50V	[M]
C2872	F1H1C223A001	0.022 16V	[M]
C2874	F1H1H331A013	330P 50V	[M]
C2882	F1H1H180A230	18P 50V	[M]
C2883	F1H1H220A230	22P 50V	[M]
C2901	F1H1C104A041	0.1 16V	[M]
C2930	F1H1H100A230	10P 50V	[M]
C2940	F1H1C104A041	0.1 16V	[M]
C2941	F2A1H330A215	33 50V	[M]
C2943	F2A1H2R2A234	2.2 50V	[M]
C2944	ECJ1VC1H101K	100P 50V	[M]
C2945	F2A1C470A234	47 16V	[M]
C2947	F2A0J101A208	100 6.3V	[M]
C2948	ECA1AAK221XB	220 10V	[M]
C2953	ECJ1VB1H561K	560P 50V	[M]
C2954	ECJ1VB1H561K	560P 50V	[M]
C2956	ECJ1VC1H101K	100P 50V	[M]
C2981	F1H1H102A219	1000P 50V	[M]
C2983	F1H1H102A219	1000P 50V	[M]
C2984	ECJ1VC1H101K	100P 50V	[M]
C2985	F1H1H102A219	1000P 50V	[M]
C2986	F1H1H102A219	1000P 50V	[M]
C3112	ECJ1VB1H221K	220P 50V	[M]
C3113	ECJ1VB1H221K	220P 50V	[M]
C3114	ECJ1VB1H561K	560P 50V	[M]
C3116	ECJ1VB1H561K	560P 50V	[M]
C3700	D0GBR00JA008	0 1/16W	[M]
C3701	F1H1A105A025	1 10V	[M]
C3704	F1H1A105A025	1 10V	[M]
C3705	D0GBR00JA008	0 1/16W	[M]
C3706	F1H1H470A230	47P 50V	[M]
C3707	F1H1H470A230	47P 50V	[M]
C3708	F1H1H100A230	10P 50V	[M]
C3709	F1H1H100A230	10P 50V	[M]
C3710	F1H1H104A783	0.1 50V	[M]
C3711	F1H1A105A025	1 10V	[M]
C3712	F2A1C101A234	100 16V	[M]
C3720	F1H1A105A025	1 10V	[M]
C3721	F1H1A105A025	1 10V	[M]
C4000	F1H1H104A783	0.1 50V	[M]
C4001	F1H1H223A219	0.022 50V	[M]
C5101	F2A1V102A154	1000 35V	[M]
C5102	ECA2AM100B	10 100V	[M]
C5103	ECA2AM100B	10 100V	[M]
C5104	F2A1V102A154	1000 35V	[M]
C5105	ECA1AAK221XB	220 10V	[M]
C5106	ECJ1VB1H104K	0.1 50V	[M]
C5107	ECJ1VB1H104K	0.1 50V	[M]
C5109	ECA1EAM101XB	100 25V	[M]
C5110	ECA1EAM101XB	100 25V	[M]
C5113	ECA1HM330B	33 50V	[M]
C5114	ECJ1VB1H104K	0.1 50V	[M]
C5115	ECJ1VB1H104K	0.1 50V	[M]
C5121	ECA1HAM470XB	47 50V	[M]
C5123	F2A1V102A154	1000 35V	[M]
C5124	F2A1V102A154	1000 35V	[M]
C5131	ECA0JAK101XB	100 6.3V	[M]
C5132	F2A1E1010056	100 25V	[M]
C5133	ECA0JAK101XB	100 6.3V	[M]
C5151	F1H1H101A230	100P 50V	[M]
C5152	ECJ1VB1H104K	0.1 50V	[M]
C5153	F1H1H101A230	100P 50V	[M]
C5155	F1H1H102A219	1000P 50V	[M]
C5157	F1H1H103A219	0.01 50V	[M]
C5159	F1H1H103A219	0.01 50V	[M]
C5171	ECA1JM102E	1000 63V	[M]
C5172	ECA1JM102E	1000 63V	[M]
C5186	ECJ1VB1H104K	0.1 50V	[M]
C5187	ECJ1VB1H104K	0.1 50V	[M]
C5201	F1H1H471A219	470P 50V	[M]
C5202	ECJ1VC1H101K	100P 50V	[M]
C5203	ECJ1VC1H101K	100P 50V	[M]
C5204	ECJ1VC1H101K	100P 50V	[M]
C5205	ECJ1VB1H104K	0.1 50V	[M]
C5208	ECA0JM221B	220 6.3V	[M]
C5210	F1H1H180A230	18P 50V	[M]
C5230	ECJ1VB1H104K	0.1 50V	[M]
C5301	ECJ1VB1A474K	0.47 10V	[M]
C5302	F1H1H331A013	330P 50V	[M]
C5303	ECJ1VB1A474K	0.47 10V	[M]
C5305	F1H1H331A013	330P 50V	[M]
C5308	ECJ1VB1H104K	0.1 50V	[M]
C5309	ECJ1VB1H104K	0.1 50V	[M]
C5310	F1K2A1040006	0.1 100V	[M]
C5311	F1H1H221A748	220P 50V	[M]
C5312	F1K1V105A003	0.1 50V	[M]
C5313	F1H1H153A219	0.015 50V	[M]
C5314	F1K2A1040006	0.1 100V	[M]
C5315	F1K1V105A003	0.1 50V	[M]
C5316	F1J1H474A757	0.47 50V	[M]
C5317	F1K1V105A003	0.1 50V	[M]
C5318	F1K2A1040007	0.1 100V	[M]
C5319	F1H1H153A219	0.015 50V	[M]
C5320	F1K1V105A003	0.1 50V	[M]
C5321	F1K2A1040006	0.1 100V	[M]
C5322	ECJ1VB1H104K	0.1 50V	[M]
C5323	ECJ1VB1H104K	0.1 50V	[M]
C5324	ECQV1H474JL3	0.47 50V	[M]
C5325	ECJ1VB1H104K	0.1 50V	[M]
C5326	ERJ3GEY0R00V	0 1/16W	[M]
C5327	ECQV1H474JL3	0.47 50V	[M]
C5328	ECJ1VB1H104K	0.1 50V	[M]
C5329	ERJ3GEY0R00V	0 1/16W	[M]
C5330	F1H2A221A009	220P 100V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C5331	F1H2A221A009	220P 100V	[M]
C5332	F1H2A221A009	220P 100V	[M]
C5333	F1H2A221A009	220P 100V	[M]
C5336	F1H1H102A219	1000P 50V	[M]
C5337	F1H1H102A219	1000P 50V	[M]
C5344	F1H1H153A219	0.015 50V	[M]
C5427	ECQV1H474JL3	0.47 50V	[M]
C5429	D0GBR00JA008	0 1/16W	[M]
C5434	F1H1H153A219	0.015 50V	[M]
C5435	F1H1H153A219	0.015 50V	[M]
C5438	ECJ1VB1H153K	0.015 50V	[M]
C5439	F1H1H153A219	0.015 50V	[M]
C5701	F2A0J101A181	100 6.3V	[M]
C5702	ECJ1VB1A474K	0.47 10V	[M]
C5703	ECJ1VB1A474K	0.47 10V	[M]
C5920	ECA1JM102E	1000 63V	[M]
C5940	ECA1JM102E	1000 63V	[M]
C5950	F2B1E222A005	2200 25V	[M]
C5951	F1B1H103A007	0.01 50V	[M]
C5952	F2A1A470A204	47 10V	[M]
C5953	F1B1H103A007	0.01 50V	[M]
C5954	F1B1H103A007	0.01 50V	[M]
C5955	ECA1HM220B	22 50V	[M]
C5956	F2A1H470A147	47 50V	[M]
C5957	F2A1H100A234	10 50V	[M]
C5958	F1B1H103A007	0.01 50V	[M]
C5959	F1B1H103A007	0.01 50V	[M]
C5960	ECQE2104KF3	0.1 250V	[M]
C5961	F2A1C221A019	220 16V	[M]
C5962	F2A1C221A019	220 16V	[M]
C5963	F2A1H4R7A234	4.7 50V	[M]
C5964	F1B1H103A007	0.01 50V	[M]
C6481	F2A1H220A216	22 50V	[M]
C6491	ECJ1VC1H101K	100P 50V	[M]
C6492	ECJ1VC1H101K	100P 50V	[M]
C6501	F1H1H103A219	0.01 50V	[M]
C6502	ECJ1VB1H104K	0.1 50V	[M]
C6503	ECJ1VB1H473K	0.047 50V	[M]
C6504	ECJ1VB1H104K	0.1 50V	[M]
C6505	ECJ1VF1C224Z	0.22 16V	[M]
C6506	F1H1H103A219	0.01 50V	[M]
C6507	F1H1H103A219	0.01 50V	[M]
C6508	F2A1E2210045	220 25V	[M]
C6509	ECQV1H104JZ3	0.1 50V	[M]
C6510	D0GBR00JA008	0 1/16W	[M]
C6521	F1H1H103A219	0.01 50V	[M]
C6551	F1H1H103A219	0.01 50V	[M]
C6552	F1H1H103A219	0.01 50V	[M]
C6553	F1H1H103A219	0.01 50V	[M]
C6601	ECJ1VC1H101K	100P 50V	[M]
C6602	F1H1H102A219	1000P 50V	[M]
C6603	ECJ1VC1H101K	100P 50V	[M]
C6604	ECJ1VC1H101K	100P 50V	[M]
C6623	F2A1H220A216	22 50V	[M]
C6631	F2A1H220A216	22 50V	[M]
C6632	F2A1H220A216	22 50V	[M]
C6635	F2A1H2R2A145	2.2 50V	[M]
C6636	ECJ1VC1H101K	100P 50V	[M]
C6751	F1H1H103A219	0.01 50V	[M]
C6752	F1H1H103A219	0.01 50V	[M]
C6753	F1H1H103A219	0.01 50V	[M]
C7102	F1H1A474A025	0.47 10V	[M]
C7107	ECJ1VB1H223K	0.022 50V	[M]
C7142	ECJ1VB1H332K	3300P 50V	[M]
C7154	ECJ1VB1C104K	0.1 16V	[M]
C7155	ECJ1VB1C104K	0.1 16V	[M]
C7161	ECJ1VB1C104K	0.1 16V	[M]
C7164	ECJ2FF1A106Z	10 10V	[M]
C7165	ECJ2FF1A106Z	10 10V	[M]
C7166	F1H1H103A219	0.01 50V	[M]
C7203	F2A0J221A200	220 6.3V	[M]
C7204	ECJ1VB1C104K	0.1 16V	[M]
C7216	ECJ1VB1H681K	680P 50V	[M]
C7217	ECJ1VB1C104K	0.1 16V	[M]
C7218	ECJ1VB1C823K	0.082 16V	[M]
C7223	F2A1H4R70037	4.7 50V	[M]
C7225	F1H1H102A219	1000P 50V	[M]
C7226	F1H1H102A219	1000P 50V	[M]
C7227	ECA1HAK010XI	1 50V	[M]
C7228	ECA1HAK010XI	1 50V	[M]
C7230	ECJ1VB1C104K	0.1 16V	[M]
C7231	F2A0J221A200	220 6.3V	[M]
C7232	F2A0J221A200	220 6.3V	[M]
C7233	F1H1C104A008	0.1 16V	[M]
C7234	ECJ1VB1C104K	0.1 16V	[M]
C7235	F2A1C100A133	10 16V	[M]
C7241	F1H1H102A219	1000P 50V	[M]
C7243	F1H1C104A008	0.1 16V	[M]
C7244	ECJ1VB1C153K	0.015 16V	[M]
C7253	F1H1H471A219	470P 50V	[M]
C7263	ECJ1VB1C104K	0.1 16V	[M]
C7264	ECJ1VB1C104K	0.1 16V	[M]
C7315	F1H1A474A025	0.47 10V	[M]
C7334	ECEA1AKA221I	220 10V	[M]
C7335	F1H1C104A008	0.1 16V	[M]
C7338	ECJ1VB1C563K	0.056 16V	[M]
C7339	ECJ1VB1C183K	0.018 16V	[M]
C7352	ECJ1VB1C183K	0.018 16V	[M]
C7601	ECEA0JKA330I	33 6.3V	[M]
C7613	ECJ1VB1C104K	0.1 16V	[M]
C7614	F2A0J101A198	100P 6.3V	[M]
C7626	ECJ1VB1C104K	0.1 16V	[M]
C7670	ECJ1VB1C104K	0.1 16V	[M]
C8000	F1H1C2730001	0.027 16V	[M]